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UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

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LIGHTING BALLAST CONTROL LLC,

*Plaintiff-Appellee,*

v.

PHILIPS ELECTRONICS NORTH AMERICA CORPORATION

*Defendant,*

and

UNIVERSAL LIGHTING TECHNOLOGIES, INC.,

*Defendant-Appellant.*

FILED  
U.S. COURT OF APPEALS FOR  
THE FEDERAL CIRCUIT

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APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE  
NORTHERN DISTRICT OF TEXAS IN CASE NO. 09-CV-00029,  
JUDGE REED O'CONNOR

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NONCONFIDENTIAL JOINT APPENDIX

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**REDACTED CONFIDENTIAL MATERIAL**

The following documents were designated as containing confidential information pursuant to the Protective Order entered in Lighting Ballast Control, LLC v. Philips Electronics North America Corp, et al., No. 7:09-cv-290, before the United States District Court for the Northern District of Texas. (See A201 – A215) Pursuant to the Protective Order, these documents are precluded from public disclosure.

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1           **MR. ROUTH:** Object. Mischaracterizes the document.

2           **THE COURT:** Overruled.

3           A. I'm sorry. Please ask the question again.

4           Q. The last document that we looked at, did it suggest to you  
5           that Magnitech was contemplating doing a prior art search  
6           relating to Mr. Bobel's patent?

7           A. Yes, it does.

8           Q. All right.

9           A. Or, yes, it did. Right.

10          Q. All right. Now, three years later in 1999, we see this  
11          document that describes an alleged way to avoid the '529  
12          patent. Is that right?

13          A. That's correct.

14          Q. Does this suggest to you anything about whether or not  
15          Magnitech was successful in finding any prior art to  
16          invalidate Mr. Bobel's patent?

17          A. It is not conclusive in that regard.

18          Q. All right. So --

19          A. Finding prior art, even if they found prior art, none of  
20          which has been presented, that by itself does not invalidate  
21          the patent. That is only done through a court action like  
22          this today.

23          Q. All right.

24          A. And so they would still have to proceed on a presumption  
25          of validity.

1 Q. All right. You're indicating you're not aware of any  
2 documents that have been produced as a result of a prior art  
3 search that may have been done?

4 A. That's true. I'm not aware.

5 Q. And even if -- if such a prior art search had generated  
6 documents, that doesn't necessarily suggest that the patent  
7 was invalid, either?

8 A. That's not my testimony.

9 Q. Okay. I may have misspoke.

10 A. I said you cannot proceed with the presumption of  
11 invalidity until a court has ruled that way, so you might take  
12 these steps to avoid infringement, even if you believed the  
13 patent was invalid.

14 Q. All right. But, at any rate, this document in 99 does  
15 seem to suggest some way to avoid a patent. Is that right?

16 A. That's absolutely correct.

17 Q. All right. It doesn't say anything about the '529 patent  
18 being invalid?

19 A. It does not.

20 Q. All right.

21 A. It doesn't even give a hint they believe it's invalid.

22 Q. This idea of shifting the inverter frequency, I understand  
23 that's a concept we haven't totally gotten into with the jury  
24 yet, but the products that are in issue in this case that you  
25 are going to be testifying about later, do they shift the



1 inverter frequency instead of shutting down the inverter?

2 A. None of the patents accused in this case shift the  
3 frequency instead of shutting down. They all shut down.

4 Q. All the products --

5 A. All the products we are accusing today shut down.

6 Q. They shut down.

7 A. They shut down the oscillating converter.

8 Q. All right.

9 MR. SKEELS: Your Honor, may I approach the witness  
10 again?

11 BY MR. SKEELS:

12 Q. Dr. Roberts, I am going to show you a document that is  
13 Plaintiff's Exhibit 3. Have you seen that document before?

14 A. Yes, I have.

15 Q. All right. Let me show this to opposing counsel. This is  
16 on Plaintiff's Exhibit List. Dr. Roberts, the document I just  
17 showed you is actually part of a larger document. I want you  
18 to have the benefit of the entire thing. So, let me get that  
19 for you, if I may. Dr. Roberts, let me now show you what's  
20 been marked as Plaintiff's Exhibit 3, which is approximately  
21 14 pages, that includes the page I showed you a moment ago.

22 A. I have seen this longer document also.

23 MR. SKEELS: Your Honor, we offer Plaintiff's Exhibit  
24 3.

25 THE COURT: 3?

1 MR. SKEELS: Yes.

2 THE COURT: This is not -- Okay.

3 MR. ROUTH: No objection.

4 THE COURT: Plaintiff's Exhibit 3 will be admitted.

5 (Admitted in Evidence as Plaintiff's Exhibit 3.

6 BY MR. SKEELS:

7 Q. Now, Dr. Roberts, I'm going to let you hold onto that copy  
8 and I have the page. And give us just a moment. I stepped on  
9 something. All right. Now, this page in the bottom  
10 right-hand corner, Dr. Roberts, has what the lawyers refer to  
11 as the Bates number. Do you see that?

12 A. Yes, I do.

13 Q. Where it says ULT 039246?

14 A. Yes, I do.

15 Q. All right. Based on that Bates number, what is your  
16 understanding of how we or from whom we obtained this  
17 document?

18 A. It was produced by ULT for this case under discovery.

19 Q. During the lawsuit?

20 A. Yes.

21 Q. All right. Now, let me -- you see the bottom paragraph  
22 there, Dr. Roberts?

23 A. Yes, I do.

24 Q. All right. Could you read that first sentence at the  
25 bottom of the paragraph -- Let me do this. Let me read it

1 into the record. The parallel capacitor filament heating  
2 scheme was selected to make easier to design a non-cycling  
3 shut down circuit that automatically restarts the ballast when  
4 a new lamp is installed.

5 And, by the way, before I ask you your understanding  
6 of that sentence, what's your understanding of who authored  
7 and signed this document, Dr. Roberts?

8 A. That looks like a page from a laboratory notebook of Bryce  
9 Hesterman's and it's signed on January 24th, 1997.

10 Q. All right. There's another signature on here I see,  
11 Dr. Roberts. Do you understand whose signature that that is?

12 A. That's Mr. Poehlman who we discussed a few minutes ago in  
13 regard to the meeting action items.

14 Q. We are going to hear from Mr. Poehlman later this week.  
15 What is being indicated by Mr. Poehlman's signature on this  
16 document?

17 A. As his comment in laboratory notes books, the owner of the  
18 notebook or the inventor since we -- we tend to call them  
19 invention notebooks, but the invention notebooks gets somebody  
20 else a second party or maybe even a second or a third to read  
21 it and witness it and he has to witness that he not only read  
22 it, but he read it and understood it.

23 Q. All right.

24 A. Okay.

25 Q. Now, we read this first sentence that refers to a filament

1 heating scheme and then it refers to shut down and automatic  
2 restart. What does this document suggest to you, Dr. Roberts,  
3 about what Mr. Hesterman, what problems Mr. Hesterman was  
4 trying to solve here?

5 A. Well, he's designing a filament heating scheme which he  
6 calls parallel capacitor which, by the way, is similar to  
7 what's used in inexpensive CFL ballasts today to avoid using  
8 filament secondary windings which he says in the second  
9 paragraph it would be difficult to use those without violating  
10 Bobel's shut down patent. So, he's developed an alternate  
11 system in order to heat the filaments, one that doesn't  
12 require filament windings.

13 Q. All right.

14 A. He's developing -- in the development of that system at  
15 this time. Development of the system.

16 Q. Now, the second sentence here says: Having filament  
17 voltage windings coupled to the resonant inductors would make  
18 it difficult to detect the presence of a lamp without  
19 violating Bobel's shut down circuit patent. What do you  
20 understand that sentence to be referring to, Dr. Roberts?

21 A. Well, the shut down circuit patent is Bobel's '529 patent.  
22 There are numerous other documents that refer to the '529 as  
23 the -- as the shut down patent -- I'm sorry, numerous ULT  
24 documents that refers to that as the Bobel shut down patent,  
25 and what he's saying is really clearly a fact. If he has

1 filament voltage windings to heat the filament, the way  
2 Bobel's circuit works, the way rapid start circuits work, if  
3 he has those filament windings and he wants to detect the  
4 presence of the lamps, he believes he will violate Bobel's  
5 patent, and therefore, in the first sentence he's really  
6 trying to develop an alternate way of filament heating that  
7 does not require filament secondary windings.

8 Q. All right. Now, it says having filament voltage windings  
9 coupled to the resonant inductors, and then if you skip a few  
10 words, it says to detect the presence of a lamp. Do the  
11 products in this case do that?

12 A. The accused products in this case all use secondary  
13 windings to heat the filaments and they all use DC control  
14 currents per '529 patent to detect the presence of the lamp,  
15 yes.

16 Q. All right. Now, to be clear, does Bryce Hesterman appear  
17 to be trying to infringe Mr. Bobel's patent or does he appear  
18 to be trying to find a solution to get around Bobel's patent?

19 A. He's clearly trying to avoid infringing Bobel's patent by  
20 developing an alternate solution.

21 Q. Do you have an understanding whether or not he or  
22 Mr. Poehlman was suggesting that if Magnitech were to do  
23 certain things they would be infringing Bobel's patent?

24 A. If they were to include filament heating windings and then  
25 try to detect the presence of the lamp, they would be

1 violating Bobel's patent.

2 Q. All right. Now, do you have an understanding as to  
3 whether or not Magnitech and Universal heeded this advice of  
4 how to avoid Bobel's patent?

5 A. I have no idea if they did it in other products, but in  
6 the products that are accused in this case, they certainly did  
7 not heed the advice in regards to those products.

8 Q. All right. Dr. Roberts, I apologize. We took you out  
9 of -- we went out of the order I had initially intended a  
10 little bit. Let me finish up briefly. You mentioned that  
11 you'd you worked at G.E. until 1999 and then in 1999 did you  
12 leave General Electric?

13 A. I retired -- I retired from General Electric under early  
14 requirement in 1999, yes.

15 Q. What did you do at that time?

16 A. I went to the Lighting Research Center at Rensselaer  
17 Polytechnic Institute in Troy, New York. Now, I had a  
18 previous association with the Lighting Research Center. I had  
19 been an adjunct assistant professor there for about a year  
20 and-a-half before my retirement from G.E., that's an unpaid  
21 position where I work with them on specific research projects,  
22 and -- and then subsequent to my retirement I began working  
23 there in a full-time position as their senior lighting  
24 technologist while retaining my adjunct professorship  
25 position.

1 Q. Do you still teach there or are you now doing consulting  
2 work exclusively?

3 A. I left there after about a year and-a-half to begin any  
4 own independent consulting business. But I still work with  
5 them on a regular basis. We do different kinds of work, which  
6 is the reason I left, and they send me clients when they get  
7 requests for the kind of work that I do and I send people to  
8 them when I get requests for the kinds of things they do. We  
9 still work together, even though I no longer work for them.

10 Q. And you are now doing consulting work through what  
11 company?

12 A. Through my own company which began as a sole  
13 proprietorship in 2000 -- I'm sorry -- in late 2000 and was  
14 incorporated in May of 2002 in New York state.

15 Q. Now, in light of all that we've discussed already,  
16 Dr. Roberts, you heard the Judge and Mr. Suder and Mr. Routh  
17 refer during voir dire and during openings about a person of  
18 ordinary skill in the art?

19 A. Yes.

20 Q. Is there any question in your mind that you're a person of  
21 ordinary skill in the art for the technology to which this  
22 patent is directed?

23 A. I easily meet the requirements as a person of ordinary  
24 skill in the art.

25 Q. All right. Now, as I mentioned a moment ago, you were

1 see Mr. Burke here in the courtroom today?

2 A. I do.

3 Q. Did you read his expert report?

4 A. I did.

5 Q. Do you recall approximately within a range of 10 or 20  
6 pages how long it was?

7 A. Fifty pages.

8 Q. All right. And he addressed reasons why Universal  
9 believes they don't infringe. Is that right?

10 A. That's correct.

11 Q. In that 50 or so page report, did you ever hear -- did you  
12 ever read anything that discussed that Universal did not  
13 infringe because their ballasts were not physically or  
14 actually connected to a lamp when they sell them?

15 A. No.

16 Q. All right. You're aware of another expert that Universal  
17 has retained, a gentleman named Dr. Giesslemann?

18 A. Yes.

19 Q. Are you familiar with that name?

20 A. Yes, I am.

21 Q. Do you understand that he may be testifying later in this  
22 trial regarding the validity or invalidity of the patent?

23 A. Yes, sir.

24 Q. All right. Have you seen his expert report?

25 A. Yes, I have.



1 Q. All right. Now, you saw on the slide -- in fact, I have  
2 here one of Mr. Routh's slides from his opening statement.  
3 I'll come back to the patent in a moment. Do you remember  
4 seeing this slide, Dr. Roberts?

5 A. Yes, I do.

6 Q. Do you recall Mr. Routh made a big deal about the  
7 difference or apparent alleged difference between connected to  
8 and for connection to. Do you recall that?

9 A. Yes, sir.

10 Q. Now, in reading Dr. Giesslemann's report, in looking at  
11 it, do you recall him using either of those two phrases?

12 A. He seemed to use them interchangeably. He has a number  
13 of -- number of charts where he's looking at prior art to  
14 determine invalidity or to try to prove invalidity and in  
15 those charts he mixes and matches connected to and for  
16 connection to, you know, back and forth as if they have the  
17 same meaning, which is the same way I would have applied them.  
18 He makes no distinction between the terms.

19 Q. That's how you understand it as well --

20 A. Well, he has in the chart one side he's comparing the  
21 words of the patent and he's comparing the words to the  
22 alleged prior art and one has connected to and the other one  
23 has for connection to. He will compare these two without --  
24 let's say -- without drawing a distinction between them.

25 Q. You have seen anything from any expert involved in this

1 case to support the position that Mr. Routh took during  
2 opening statements today?

3 A. No.

4 Q. Let's go back to the patent for a moment. Do you  
5 recognize this figure at the bottom? Let me ask you that. Is  
6 that a schematic?

7 A. That is a schematic diagram, yes.

8 Q. All right. And that's also the same schematic that's  
9 shown in figure 1 that we're about to look at in a moment. Is  
10 that right?

11 A. Yes. That's way patents are normally done, figure 1 is  
12 reproduced on the front page of the patent.

13 Q. All right. Now, the abstract here, Dr. Roberts, does this  
14 also suggest to you the patent is directed towards a lighting  
15 ballast?

16 A. Yes. And then it says a series resonant ballast for  
17 powering at least one gas discharge lamp.

18 Q. All right.

19 A. In addition, let me point out at the very end it talks  
20 about removing the lamp from the outward terminal. So, I  
21 mean, the patent covers this device. It still covers the  
22 device when the lamp is removed. It says so right there. You  
23 remove the lamp. Okay?

24 Q. All right. Speaking in terms of removing the lamp, does  
25 this patent also talk about this issue of re-lamping, putting

1 the lamp back in?

2 A. Yes, it does.

3 Q. Does it use that terminology a number of times?

4 A. I don't know the exact way it refers to it but it  
5 certainly refers to that act.

6 Q. All right. We'll go through the patent. We may see a few  
7 instances of that. If you catch one that I miss, feel free to  
8 point that out. We've seen figure 1. We're going to be  
9 talking in some detail about this figure. Now, this is a  
10 little bit overwhelming and a little bit intimidating for  
11 somebody like me, Dr. Roberts, at first glance. Are we going  
12 to be taking some steps today to try to simplify this and  
13 break these components down so that they can be more easily  
14 understood in terms of how they work?

15 A. Yes.

16 Q. All right. Let me get the schematic.

17 **MR. SKEELS:** Your Honor, I'm just be scanning my  
18 outline at the moment. I'm wondering if this would be an  
19 appropriate time for a break or if you want to keep going.

20 **THE COURT:** Keep going.

21 **MR. SKEELS:** Keep going. Very well. All right.

22 **BY MR. SKEELS:**

23 Q. Let me ask you, Dr. Roberts, I notice that the -- in  
24 figure 1 here there's a control circuit shown. Is that  
25 identified by a particular number?

1 A. The dotted line labeled 58 is identified by Mr. Bobel in  
2 the patent as the boundary of the control circuit.

3 Q. All right. We're going to be discussing that in some  
4 detail today. Is that right?

5 A. That is correct.

6 Q. All right. Now, I believe you mentioned earlier that the  
7 heart of Mr. Bobel's invention was this notion of combining  
8 shut down circuitry with restart circuitry and using a  
9 control, a DC control current, to help detect the presence or  
10 absence of a lamp. Is that right?

11 A. In combination with the direct current blocking means,  
12 yes.

13 Q. Okay. Is there a direct current control signal shown in  
14 this schematic, Dr. Roberts?

15 A. It's that dotted line that starts at the upper left and  
16 traces a particular path and then ends up at an input terminal  
17 to a control circuit.

18 Q. Does it in fact travel through a filament of the lamp?

19 A. Yes. That object of 18 in the middle that looks like an  
20 oval track is intended to be the lamp, the two filaments are  
21 shown, and the DC control current is shown flowing through the  
22 filaments.

23 Q. All right. Very well. Now, in terms of the importance of  
24 this specific circuitry within this control circuit, do you  
25 regard the specific arrangement of those components within the

1 control circuit to be the novel part of Mr. Bobel's invention?

2 A. No, I don't.

3 Q. All right. Let me show you figure 3. We just looked at  
4 the control circuitry a moment ago. Where is the control  
5 circuitry here in figure 3, Dr. Roberts?

6 A. Well, it's -- it's not shown there, only the connection,  
7 the -- that CTa, that terminal CTa is the input to the control  
8 circuitry, but it's not produced in figure 3.

9 Q. What's the significance of that to you?

10 A. Mr. Bobel is showing us in alternate configuration, moving  
11 from one lamp to two lamps with his DC control circuit, and  
12 the rest of the circuitry in the dotted line is the same. He  
13 doesn't need to reproduce it.

14 Q. All right. We're going to be hearing more today and this  
15 week about DC blocking means and DC blocking circuits. Does  
16 this figure 3 show what the patent refers on to as DC blocking  
17 circuits?

18 A. It shows three DC blocking circuits, yes.

19 Q. Are those numbered as 57?

20 A. 57, 301, and 50.

21 Q. All right. Now, within those DC blocking circuits and,  
22 again, you've heard a lot of talk today about the preferred  
23 embodiment and certain examples that are shown in Mr. Bobel's  
24 patent. Is that right?

25 A. Yes.

1 Q. Now, do the preferred embodiments speak in terms of having  
2 DC blocking circuits composed of certain components?

3 A. Yes.

4 Q. All right. Within these DC circuit boxes I've out lined,  
5 how many components are within each of those boxes?

6 A. There are two components within each box.

7 Q. What are those components?

8 A. One is the filament heating winding which we've seen  
9 before in rapid start circuits and the other is a series  
10 connected capacitor that the Court has construed as -- Well,  
11 anyway, it's a series connected capacitor which is part of the  
12 DC blocking means.

13 Q. All right. We're not going to get into much detail about  
14 what all these different components do, but so the jury  
15 understands what a capacitor is, for example, you recall we  
16 spoke earlier today about alternating current and direct  
17 current.

18 A. Right.

19 Q. Can -- Let me ask you this, these lines here, do they  
20 represent like copper wire, for example, or some path along  
21 which the current can travel?

22 A. The lines -- I'm sorry. The lines can represent wires or  
23 they represent logical connections on the diagram. They don't  
24 have to be the same as physical wires.

25 Q. All right. But in any event, if direct current, DC, is

1 traveling along this path towards the capacitor, can DC go  
2 through a capacitor?

3 A. DC cannot go through a capacitor.

4 Q. That's by virtue of what a capacitor does, it blocks DC?

5 A. It's two metal plates separated by an insulator. It only  
6 flows for a short period of time until it charges the  
7 capacitor and then it stops flowing.

8 Q. All right. What about alternating current? Can  
9 alternating current pass through or --

10 A. Alternating current passes through and the higher the  
11 frequency the easier it passes through.

12 Q. What is the function of these secondary windings shown in  
13 figure 3, Mr. -- I think you mentioned these curlicue things  
14 are the secondary winding?

15 A. As in all rapid start circuits, those secondary windings  
16 provide power for the filaments so they can be properly  
17 heated.

18 Q. All right.

19 A. And that AC voltage that they develop, the AC current they  
20 produce, flows through the capacitor to the filament windings,  
21 even though the capacitor is there.

22 Q. All right.

23 A. All right?

24 Q. Let me show you just a few more sections in this  
25 specification and then we're going to move on to the claims

1           **MR. SKEELS:** I'm just asking for his understanding.

2           **THE COURT:** If you can answer based on that language.

3 If you can discern from that language.

4           **THE WITNESS:** I do not --

5           **THE COURT:** Hold on. Hold on.

6           **THE WITNESS:** I'm sorry.

7           **THE COURT:** Testify to what that language means to  
8 you.

9           **THE WITNESS:** Okay.

10 A. This language by itself does not imply integrated  
11 circuits. The language by itself says driven oscillators.  
12 Driven oscillators don't necessarily need integrated circuits  
13 but they can definitely include them.

14 Q. So, one of the things that could be driving it would be an  
15 integrated circuit?

16 A. It could be, yes.

17 Q. Do you have an opinion or an understanding of whether  
18 Mr. Bobel would have been aware of integrated circuits in 1993  
19 when he applied for this patent?

20           **MR. ROUTH:** Same objection.

21           **THE COURT:** Okay. Reading that language, if that  
22 language suggests to you anything, you can testify to your  
23 understanding of what that language suggests to you on the  
24 subject.

25 **BY MR. SKEELS:**



1 Q. Let me withdraw that question, Dr. Roberts, and ask it  
2 this way. You testified you're one of skill in the art for  
3 this particular technology. You've indicated that integrated  
4 circuits have been around at least as early as 1964 and you've  
5 seen them in ballasts as early as 1980. As one skilled in the  
6 art, do you have an opinion as to whether others skilled in  
7 the art would have been aware of integrated circuits in 1993?

8 A. I think anybody skilled in the art would have been aware  
9 of integrated circuits in 1993.

10 Q. All right. And, finally, we're going to have some other  
11 slides in which we look at the claims, but you understand for  
12 the benefit of the jury we're going to spend most of our time  
13 focused here on claim 1. Is that right?

14 A. That's true.

15 Q. All right. Now, Dr. Roberts, this is a version of  
16 figure 1 that I'll represent to you that it's identical except  
17 all the little numbers and labels have been taken out so it's  
18 easier to read. Do you recognize that as being, as far as the  
19 components are concerned, identical to figure 1?

20 A. I do.

21 Q. Now, we color coded this, Dr. Roberts. Do you need to  
22 share something with the jury in terms of your ability to  
23 follow all the color schemes?

24 A. I am a bit colorblind, mostly red/green colorblind.

25 Q. All right.

1 A. To the extent that Mr. Skeels uses colors he calls red, I  
2 cannot distinguish them from green.

3 Q. I never said I mastered my colors, but I'm doing by best.  
4 In any event, Dr. Roberts, if I have to ask about a certain  
5 color, the jury understands. Let me find one of my blow-up  
6 over here.

7 MR. SKEELS: Your Honor, may I enter the well?

8 BY MR. SKEELS:

9 Q. What I'd like to do, Dr. Roberts, is to have the jury be  
10 able to see the language of claim 1 while at the same time  
11 allow you to walk them through the limitations of claim 1.  
12 So, before we get to an actual product with Universal, they've  
13 seen how all these limitations or what we call requirements  
14 sometimes are satisfied by figure 1.

15 MR. SKEELS: Members of the jury, is that something  
16 you all can read or see?

17 THE WITNESS: Mr. Skeels, you may be blocking some  
18 partial view. I'm not sure if the jury can see that.

19 MR. SKEELS: I'm going to try a different easel. Can  
20 you all see that?

21 JUROR: I can't see it too well.

22 MR. SKEELS: All right.

23 JUROR: I need glasses.

24 BY MR. SKEELS:

25 Q. Claim 1 is also in your notebook, so if you need to turn

1 Q. And they -- there's a DC control signal coming from those  
2 DC input terminals.

3 A. Yes. The path we indicated earlier, along this line  
4 through the filament, through a resistor partially obscured by  
5 this line, down through this filament and into the control  
6 circuit.

7 Q. And is that drawn in brown, Dr. Roberts?

8 A. Looks good to me.

9 Q. All right. And the next part of the preamble refers to  
10 adapted to power at least one gas discharge lamp having  
11 heatable filaments. Does this schematic, Dr. Roberts, show a  
12 -- that it's adapted to power a gas discharge lamp?

13 A. This is a gas discharge lamp showing and it has two  
14 heatable filaments which are heated by secondary --

15 Q. So in the charts we've been looking at, I could put a  
16 checkmark next to the preamble because this schematic  
17 satisfies all the requirements of the preamble. Is that  
18 right?

19 A. Yes, it does.

20 Q. All right. Now, the first element refers to a voltage  
21 source means providing a constant or variable magnitude DC  
22 voltage between the DC input terminals. What do you  
23 understand all that language to mean, Dr. Roberts?

24 A. A full bridge rectifier connected to 630 Hz power line  
25 that provides power to the --

1 Q. All right. Now, in this particular schematic, we don't  
2 see a rectifier, but is there any doubt that this circuit  
3 would be run by using a rectifier to convert the AC from the  
4 wall to DC?

5 A. It's so common in DALI circuits that I at first didn't  
6 notice it was missing.

7 Q. All right. So, would anybody skilled in the art recognize  
8 that to convert AC from the wall to DC for use in this circuit  
9 that in electronic ballasts that can only be done by a  
10 rectifier?

11 A. 99.9% of the time that's how you do it, yes.

12 Q. All right. Now, the next limitation refers to output  
13 terminals connected to the filament of the gas discharge lamp?

14 A. Yes.

15 Q. Does this schematic show output terminals?

16 A. There are four output terminals showed by these four  
17 nodes. One, two, three, four nodes. This is where the  
18 ballast connects to the lamp.

19 Q. Is it fair to say that there's two sets of two output  
20 terminals?

21 A. Two sets of two.

22 Q. All right. And I'll indicate, Dr. Roberts, that those,  
23 for the benefit of the jury, those are highlighted in purple.  
24 All right. Now, based on your understanding of output  
25 terminals connected to the filaments of the gas discharge

1 lamp, does this schematic satisfy that requirement of the  
2 claim?

3 A. Yes, it does.

4 Q. All right. So, we can put a checkmark next to what we  
5 refer to as the voltage source limitation?

6 A. Yes.

7 Q. All right. Excuse me, the output terminals limitation.  
8 Now, the next section is a bit longer. It reads as follows:  
9 Control means capable of receiving control signals from the DC  
10 input terminals and from the resonant converter.

11 A. I need to move to the other side of this. I think  
12 everybody can -- I won't be blocking it --

13 **THE COURT:** When you talk though I need you to speak  
14 up good and loud. I'm sure that our court reporter heard it,  
15 but I didn't. But that's okay, just as you go forward --

16 **THE WITNESS:** I said I'm going to move to the side so  
17 I wouldn't block these people. I assume everybody could still  
18 see it. I will speak up. I'm sorry, sir.

19 **MR. SKEELS:** May I approach this easel, Your Honor?  
20 Thank you. Let's set this here. You may still be able to see  
21 it there or you can follow along in your notebooks if you are  
22 reading claim 1.

23 **BY MR. SKEELS:**

24 Q. Now, this control means limitation, Dr. Roberts --

25 A. Yes, sir.

1 Q. Again, it starts off by referring to a control means  
2 capable of doing certain things. Does this figure 1 schematic  
3 show a control circuit of some sort?

4 A. Yes, it does.

5 Q. And is it highlighted in blue?

6 A. Yes, it is.

7 Q. All right. Now, the claims in this control means part of  
8 the claim are talking about four different functions. Is that  
9 right?

10 A. Well, it's described as three. We have reconfigured it a  
11 bit as four and the Court has accepted our reconfiguration of  
12 the functions.

13 Q. The Court would be okay if we describe the four functions  
14 that are described here?

15 A. That's my understanding by reading judgments of the Court.

16 Q. So, it says capable of receiving control signals from the  
17 DC input terminals. Is that the first function, Dr. Roberts?

18 A. Yes, it is.

19 Q. I'm going to -- I'm going to call it control signal, CS.  
20 Receiving a control signal from the DC input terminals. Is  
21 that right?

22 A. Yes, sir.

23 Q. Now, going along with that, is there a second function,  
24 without necessarily going in order here, is there a second  
25 function described in the control means limitation in terms of

1 why it receives a control signal?

2 A. It receives the control signal from the DC input terminals  
3 to initiate oscillations.

4 Q. Is that the second function, Dr. Roberts, to initiate  
5 oscillations?

6 A. Yes, it is.

7 Q. All right. Now, if we continue reading, it refers to  
8 control means that also are able to receive a different kind  
9 of control signal, a signal from the resonant converter. Is  
10 that right?

11 A. Yes, it is.

12 Q. Would that be our third function?

13 A. Yes.

14 Q. To receive a control signal from the resonant converter.  
15 We spent some time today talking about the resonant converter  
16 and you've already identified that in red. Is that right?

17 A. Yes.

18 Q. All right. And then the fourth function that's cited by  
19 this limitation is what, Dr. Roberts?

20 A. To stop the oscillations when it receives the second  
21 control signal.

22 Q. So, is it fair to say, Dr. Roberts, that the first two and  
23 the second two go together?

24 A. Yes.

25 Q. All right. Now, could you show for the jury and tell the

1 jury whether or not this circuit shows it receiving a control  
2 signal from the DC input terminals?

3 A. Yes, it does. It's the one that we traced, it starts  
4 here, goes through the filaments, goes through this filament,  
5 and ends up entering the control circuit right at that spot.

6 Q. And that spot you pointed to at the top of the blue box,  
7 is that what you referred to as the input terminal of the  
8 control circuit?

9 A. That's in figure 1, CFTA, that's the input --

10 Q. And the second one is oscillation?

11 A. Yes.

12 Q. Based on -- Dr. Bobel -- I mean, Mr. Bobel describes in  
13 his patent, does it initiate the operations of the converter?

14 A. Yes, it does.

15 Q. All right. This third function is to receive a control  
16 signal from the resonant converter. Does it do that?

17 A. Yes, it does.

18 Q. Can you show the jury?

19 A. Okay. This particular circuit happens to receive both  
20 control signals at the same input point to the control  
21 circuit. The second control signal is the voltage at the  
22 intermediate node which is the junction between the conductor  
23 and the capacitor which happens to be the same where the DC  
24 current flows. It's a high voltage DC signal which appears  
25 here when there's no lamp connected or the lamp will not



1 start. That's a second control signal from the resonant  
2 converter.

3 Q. You pointed a moment ago to what you referred to as an  
4 intermediate node?

5 A. That's right.

6 Q. What do you mean by an intermediate node?

7 A. The intermediate node is the junction between the resonant  
8 conductor and the resonant capacitor.

9 Q. All right. And does this control circuit then stop the  
10 oscillations of the resonant converter?

11 A. Yes, it does.

12 Q. All right.

13 **THE COURT:** Okay. We'll go ahead and take our  
14 afternoon break now. So, about fifteen minutes. If you will  
15 go on back to the jury room. Mr. McGaha, if you will stay  
16 here, then we can talk.

17 (Jury out except for juror McGaha.)

18 **THE COURT:** Okay. Why don't you come around that  
19 easel there so everybody can see you and --

20 **MR. SKEELS:** I'm sorry.

21 **THE COURT:** Denver, are you -- do you have this?  
22 Okay. Good. Now, go ahead -- Now, what's -- tell me what  
23 the problem is.

24 **JUROR:** The problem is I'm a single father of two  
25 young girls and thought I could make arrangements where my

1 children could stay at home. I live 120 miles an away. I  
2 thought I could make arrangements they could stay at home and  
3 it appears I'm not going to be able to do that without having  
4 to bring those girls here with me or something, so --

5 **THE COURT:** The -- you know, in the jury selection  
6 part, we heard folks raise this issue, and candidly, Mr. Suder  
7 and Mr. Routh both talked, and while these are not necessarily  
8 legal excuses to excuse a jury -- to excuse a potential juror,  
9 both Mr. Suder and Mr. Routh agreed, as courtesy, really, to  
10 allow folks to be excused that have these types of problems.  
11 The problem now is you've been selected --

12 **JUROR:** Yes, sir.

13 **THE COURT:** -- as one of the jurors to hear the case,  
14 and so it's not like we can take the person who was sitting  
15 next to you and stick them on the -- on the panel to hear the  
16 case.

17 **JUROR:** Right.

18 **THE COURT:** And so that -- that really is the  
19 problem. Now, I -- because of the distance that you live from  
20 the courthouse, I'm able to authorize the clerk's office to  
21 get you a hotel room here in Wichita Falls so that you're  
22 close and they can stay there. Does that help you or does  
23 that --

24 **JUROR:** Oh, I mean -- that would help me out  
25 immensely. But you're asking me to put my girls in a motel

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1 back doors there. Thank you.

2 MR. SKEELS: Doctor Roberts, I believe we had  
3 finished going through the preamble and Element A, which we  
4 referred to as the voltage source element, and the second one  
5 was the output terminals. We addressed that. The third was  
6 control means, and I believe we just finished addressing now  
7 Figure 1 from Bobel's patent shows how that control circuit is  
8 able to perform all four of those functions. Is that right?

9 A. Yes.

10 Q. All right. Now, let's move onto the final limitation.  
11 And you understand, Doctor Roberts, sometimes we will use the  
12 word "element" or "limitation" or "requirement," and those are  
13 simply the things that the claim requires?

14 A. Yes, I do understand that.

15 Q. All right. I will try to use them more consistently, but  
16 sometimes we use them interchangeably.

17 So the final requirement of Claim 1, direct current  
18 blocking means coupled to the output terminals is operable to  
19 stop the flow of the control signal from the DC input  
20 terminals whenever at least one gas discharge lamp is removed  
21 from the output terminals or is defective. That is a  
22 mouthful, so let's see if we can break it down into bite-sized  
23 pieces.

24 First of all, do you understand that the Court has given  
25 some instruction in terms of how you should construe and

1 understand this requirement?

2 A. Yes, I have. Yes, I do.

3 Q. Now, you will recall that the Court identified what the  
4 corresponding structure is for this means plus -- this direct  
5 current blocking means requirement. Right?

6 A. Yes. That is correct.

7 Q. And what did the Court identify in the patent as  
8 representing corresponding structure?

9 A. A capacitor, and they identified these two capacitors,  
10 this one on the left and this one on the right connected to  
11 these windings.

12 Q. All right. Now, let's look at the patent really quickly  
13 so we make sure the jury has the benefit of what the Court has  
14 defined as or referred to as the corresponding structure. Let  
15 me place this on here for a moment, Doctor Roberts. And I  
16 will represent to you that this is from Column 3 of the '529  
17 Patent.

18 Do you recall that the Court referred back to the  
19 specification and described what the corresponding structure  
20 is as described in Column 3 line 53 through line 55 and then  
21 also line 56 through line 57?

22 A. I am sorry. What is your exact question?

23 Q. All right. Do you have an understanding in terms  
24 of understanding how to interpret and apply this direct  
25 current blocking means language from the claim, the Court

1 instructed the parties to refer back to the specifications to  
2 better understand what is meant, and in so doing the Court  
3 referred to Column 3 lines 53 through Column 3 line 58?

4 A. I believe that is correct.

5 Q. All right. I know that was a little bit confusing, so  
6 let me get another colored pen.

7 MR. ROUTH: I don't know if I should object if I  
8 just disagree with his characterization of the Court's ruling,  
9 but I think he is misstating your instruction.

10 THE COURT: Okay.

11 Q. (BY MR. SKEELS) Let me ask you with respect, Doctor  
12 Roberts, to this language here, does it refer to certain  
13 capacitors?

14 A. It refers to capacitor 8 and capacitor 25.

15 Q. All right. Now, turning back to the schematic we were  
16 looking at, we have removed the numbers, but do you recall  
17 that this capacitor here was labeled in Figure 1 as  
18 capacitor 8?

19 A. Yes. That one is 8, and the other one I referred to is  
20 capacitor 25.

21 Q. All right. So in looking at this figure, does it, in  
22 fact, show DC blocking capacitors that are -- That correspond  
23 to the capacitors the Court identified?

24 A. The Court identified these specific capacitors on  
25 Figure 1 labeled 8 and 25.

1 Q. All right. Now, the remainder of the claim language, if  
2 we keep going it, says DC blocking means coupled to the output  
3 terminals. What do you understand that to mean?

4 A. It means that in this case that one end of the capacitor  
5 is connected -- I am sorry. The capacitor is connected to at  
6 least one pair of output terminals.

7 Q. So you pointed to the green block on the right and  
8 demonstrated how that is connected to the set of output  
9 terminals on the right. Correct?

10 A. This capacitor is connected to that output terminal.

11 Q. All right. Now, is it also connected even if it has to  
12 go through a secondary winding to get there to the other  
13 output terminal that is also highlighted in purple?

14 A. It is connected through the secondary winding, yes.

15 Q. Now, on the left side do we have another capacitor  
16 highlighted in green?

17 A. Yes, we do. That is capacitor 8.

18 Q. And Is that coupled to the other set of output terminals?

19 A. It is connected to this output terminal directly and this  
20 one indirectly through the secondary winding.

21 Q. Now, do you understand the Court's ruling To require that  
22 there must be DC blocking capacitors to account for or  
23 accounted to each set of output terminals?

24 A. Yes.

25 Q. And, in fact, is that what this figure shows?

1 A. Yes, it does.

2 Q. All right. Okay. Now so we get our terminology  
3 straight, we have described -- Let me zoom this out a moment.  
4 Just so we are clear on the capacitors that you are talking  
5 about, are there other capacitors shown in this circuit  
6 diagram?

7 A. Certainly. They are the two resident capacitors and  
8 three capacitors in the control circuit shown in this one, and  
9 there are these two capacitors, sometimes called the half  
10 bridge capacitors.

11 Q. Okay. So are these capacitors in the control circuit,  
12 for example, sometimes referred to as charging capacitors, or  
13 could they be referred to that way?

14 A. They could be.

15 Q. And then you assigned a particular name or label to these  
16 two capacitors in green. How did you refer to those  
17 capacitors?

18 A. For those capacitors, using the Court's instruction,  
19 these are the DC blocking means or DC blocking capacitors.

20 Q. That is a good point. Is each capacitor -- Under the  
21 Court's ruling, is each capacitor a DC blocking means, or did  
22 the capacitors together collectively make up, thus, the DC  
23 blocking means?

24 A. The capacitors together make up the DC blocking means, in  
25 my understanding.



1 Q. All right. So the DC blocking means in this schematic  
2 are represented which the two capacitors collectively in  
3 green?

4 A. Yes, I believe they are in green.

5 Q. Now, continuing on with this DC blocking means  
6 requirement, after it says that are coupled to the output  
7 terminals, it says operable to stop flow of the control signal  
8 from the DC input terminals whenever at least one gas  
9 discharge lamp is removed from the output terminals or is  
10 defective. Let me deal with the last part of that language  
11 that says -- I am going to put it up here on the screen for a  
12 moment so the jury can have the benefit of this.

13 It says whenever at least one gas discharge lamp is  
14 removed from the output terminals or is defective. What do  
15 you understand that language to mean?

16 A. Well, whenever a gas discharge lamp is removed is  
17 obvious. It is removed from the socket, not connected to the  
18 output terminals. The word defective in the context of this  
19 claim has been understood -- is understood to mean when the  
20 filament in a particular lamp is actually physically broken.

21 Q. All right. So you traced the DC control path earlier.  
22 When the language says whenever a lamp is removed or is  
23 defective, is it referring to any situation which this brown  
24 DC control path is broken?

25 A. Yes, it is.

1 Q. And that could happen by the lamp being removed or by a  
2 filament that is in that path breaking?

3 A. I am sorry. The lamp defective part refers to the  
4 filament being broken; and the lamp removed part covers when  
5 the lamp is removed, the DC control current is then stopped.

6 Q. Very well. So the claim language requires direct current  
7 blocking means coupled to the output terminals and operable to  
8 stop flow to the control signal from the DC input terminals  
9 whenever at least one gas discharge lamp is removed from the  
10 output terminals or is defective. Does this schematic in fact  
11 teach and satisfy that requirement?

12 A. Yes. Let me point out what is being stopped. I mean,  
13 obviously if these weren't here at all it would also stop.  
14 The purpose of this capacitor is to keep the current from  
15 flowing through the secondary winding which, as we discussed  
16 for a while, is needed to heat the filaments of the lamp and  
17 the preferred operation of these lamps. If the capacitor were  
18 not here, this current could flow through the secondary  
19 winding even in the absence of the filament. By putting a  
20 capacitor here we then make sure that when this filament is  
21 broken or missing, then the current is stopped and doesn't get  
22 the flow through the secondary.

23 Q. All right. Very well. And what happens, Doctor Roberts,  
24 in a situation using this circuit design if, after the lamp is  
25 removed, it is put back in?

1 A. When the lamp is put back in and the circuit is allowed  
2 to flow, it then flows into the control circuit and it will  
3 reinitiate oscillations through by actually charging this  
4 capacitor, and then this particular device breaks down and the  
5 oscillations are initiated.

6 Q. All right. Very well. I am going to let you return to  
7 your seat, Doctor Roberts. Thank you.

8 I am going to show you -- Doctor Roberts, I think you can  
9 do this from your chair, but I did want to look at Claims 2  
10 and 5. I believe you have already described to the jury the  
11 components that make up the oscillating resonant converter.  
12 Is that right?

13 A. Yes. That is correct.

14 Q. And you referred to -- in part you referred to this  
15 resonant capacitor. Is that right?

16 A. Mr. Skeels, if you could shrink that down a bit, it would  
17 make it easier to see.

18 Q. You refer to resonant capacitor?

19 A. Yes, I do.

20 Q. And this resonant conductor?

21 A. Yes I did.

22 Q. And you see that Claim 2 requires a resonant converter to  
23 be comprised of a capacitor and an inductor?

24 A. Yes.

25 Q. And further, that those components need to be connected

1 in series via an intermediate node?

2 A. That is correct.

3 Q. And this schematic, Doctor Roberts, is the inductor and  
4 the capacitor connected in series via an intermediate node?

5 A. Yes, they are.

6 Q. All right. And I may be using an older version. Is the  
7 intermediate node actually on the left side of the inductor?

8 A. The diagram is not positioned properly. Yes, it is at  
9 the left side of the inductor.

10 Q. So if I put a circle here, this is the intermediate node  
11 here. Is that right?

12 A. That is correct.

13 Q. All right. Now, turning then to Claim 5 -- Which is  
14 another claim that has been asserted in this case. Is that  
15 right?

16 A. That is correct.

17 Q. You see that it refers to the device recited in Claim 1.  
18 You understand that these are what are referred to as  
19 dependent claims since they refer to Claim 1, and in order to  
20 infringe Claim 5 you have to first meet all the requirements  
21 of Claim 1 and then meet the additional requirement of  
22 Claim 5?

23 A. Yes, I understand that.

24 Q. All right. And this says the device, according to  
25 Claim 1, wherein the direct current blocking means includes a

1 capacitor and is connected effectively across at least one  
2 heatable filament.

3 Looking back at our schematic again, do these -- Do the  
4 DC blocking means, in fact, include capacitors?

5 A. Yes, they do.

6 Q. I mean, does the DC blocking means include capacitors?

7 A. Yes, it does.

8 Q. And are they connected across -- connected effectively  
9 across at least one heatable filament of at least one gas  
10 discharge lamp?

11 A. Yes, they are.

12 Q. Now, to be clear in terms of what is meant by connected  
13 across, what do you understand connected across to mean?

14 A. Connected to both of the terminals of that two terminal  
15 device, which is a filament. A filament has two terminals it  
16 is connected across. It is connected to each of those two  
17 terminals of each filament.

18 Q. All right. So, for example, Doctor Roberts, I have two  
19 chairs here and they both have armrests. For purposes of  
20 demonstration, if these are my two lamp filaments and my arms  
21 are here, am I connected across this chair?

22 A. Yes, you are.

23 Q. All right. Now, if I move over to Mr. Suder's chair, I  
24 am in between these two chairs, and let's say this is a lamp  
25 and this is a lamp. Am I now connected between the two chairs

1 or between the two lamps?

2 A. You are connected between the two lamps.

3 Q. All right. Now let me show you Figure 3. Is that  
4 understanding of what it means to be connected across or  
5 connected between, does this appear to be a replication of  
6 Figure 3?

7 A. That is a simplified version of Figure 3 without the  
8 numbers, Figure 3 of the '529 without the numbers.

9 Q. So here on this DC blocking circuit on the left, is that  
10 connected across this lamp filament?

11 A. That one is connected across and the center one is  
12 connected between.

13 Q. Between these two lamps?

14 A. Between those two lamps, and the right hand one is  
15 connected across.

16 Q. All right. Now, just to be clear on what output  
17 terminals are, since the issue will come up again, these are  
18 identified in purple here. This is one set of output  
19 terminals. Is that right?

20 A. I will take your word for it that it is purple, yes.

21 Q. All right. And then up top here we have two output  
22 terminals. Those are output terminals. Is that right?

23 A. That is correct.

24 Q. And this is a set of output terminals here on the right?

25 A. That is correct. There are three sets.

1 Q. Now, explain to the jury why these at the bottom here are  
2 not output terminals?

3 A. Those are not connected to the ballast in any way. That  
4 would be a wire within the fixture that connects one pin of  
5 one lamp socket to another pin on another lamp socket but does  
6 not connect to the ballast, so it is not an output terminal of  
7 the ballast.

8 Q. All right. In this Figure 3 -- By the way, Doctor  
9 Roberts, how would you describe the DC blocking means? Does  
10 it meet the DC blocking means limitation as well?

11 A. Yes, it does.

12 Q. And is that by virtue of the three capacitors highlighted  
13 in green?

14 A. Yes, it is.

15 Q. And those taken collectively make up the DC blocking  
16 means?

17 A. Yes, they do.

18 Q. All right.

19 MR. SKEELS: May I approach the witness, Your Honor?

20 THE COURT: Yes.

21 Q. (BY MR. SKEELS) Doctor Roberts, I am now handing you  
22 what has been marked as Plaintiff's Exhibit No. a 54. Is that  
23 the colored version of Figure 1 that we just discussed?

24 A. It appears to be the same.

25 Q. All right. And do you believe that -- Does that

1 accurately reflect a summary of the issues we just discussed  
2 in terms of that schematic satisfying all the requirements of  
3 Claim 1?

4 A. Yes, it does.

5 Q. And do you believe that exhibit would be helpful to the  
6 jury in understanding your testimony?

7 A. I think it would.

8 MR. SKEELS: Your Honor, we offer Plaintiff's  
9 Exhibit No. 54 into evidence.

10 MR. ROUTH: Can I see it?

11 THE COURT: Yes.

12 MR. ROUTH: I have no objection.

13 THE COURT: It will be admitted.

14 MR. SKEELS: Thank you, Your Honor.

15 Q. (BY MR. SKEELS) Let me hand you what has been marked as  
16 Plaintiff's Exhibit No. 55. Is that the replica of Figure 3  
17 that we just discussed?

18 A. Yes, it is.

19 Q. And it is also color-coded?

20 A. Yes, it is.

21 Q. All right. And does it accurately reflect your opinions  
22 with respect to whether or not the schematic shown in Figure 3  
23 infringes or satisfies all of the requirements of Claim 1 of  
24 the '529 Patent?

25 A. Yes, it does.



1 Q. And do you believe this exhibit would be helpful to the  
2 jury in understanding your testimony?

3 A. Yes, I do.

4 MR. SKEELS: Your Honor, we offer Plaintiff's  
5 Exhibit No. 55.

6 MR. ROUTH: No objection.

7 THE COURT: It will be admitted.

8 MR. SKEELS: Your Honor, may I publish these to the  
9 jury as well?

10 THE COURT: Yes.

11 MR. SKEELS: Thank you.

12 Q. (BY MR. SKEELS) Now, Doctor Roberts, we are going to  
13 start looking at these seven representative products. Could  
14 you describe to the jury some of the things you did in order  
15 to evaluate these products and to make a determination of  
16 whether or not they infringed?

17 A. For each product I looked at diagrams such as this, which  
18 describe how the electrical components -- the electronic  
19 components of any electronic product are interconnected, and  
20 that information, together with values on all of the  
21 complement parts, uniquely describes how the particular device  
22 operates. And in addition to that, we looked at wiring  
23 diagrams showing how lamps are connected to the ballast. We  
24 had available to us parts lists so we could interpret that one  
25 particular diagram, and for those ballasts that use computers

1 inside microprocessors inside, we had made available to us the  
2 microprocessor code that runs on those microprocessors so we  
3 could understand how they work, really how the microprocessor  
4 processes the information for initiating and shutting down the  
5 oscillations.

6 Q. All right. Now, I have also put on the board, because  
7 that one, in particular, of our seven product groups, that may  
8 be the most difficult one for the jury to see. And these are  
9 not easy to read, but I put this on the screen as well. You  
10 will see that this is Bates numbered down in the bottom right  
11 number ULT 38, and I will represent to you that this  
12 represents -- this corresponds to what we referred to as  
13 Linear Group 1. Is this a schematic that you reviewed?

14 A. Yes, it is. But before we go ahead I would like to get  
15 on the record that on my own laptop, and with the Court's  
16 permission, I have that same diagram so I can blow it up.  
17 These diagrams are very hard to read, sometimes very hard to  
18 read the numbers on the diagrams, and this is a high  
19 resolution copy, one of the originals, so I can blow this up  
20 so I can look at it in detail if I need to identify a part.  
21 It is the same diagram you are looking at in each case. Okay?

22 Q. All right. Now, so let me see if I can summarize the  
23 things you looked at. You mentioned the schematic on the  
24 screen and also looking on your laptop.

25 A. Yes.

1 Q. You mentioned wiring diagrams. Let me put up on the --

2 A. Yeah. There is some confusion. This could be considered  
3 a wiring diagram, but when we say wiring diagrams we mean  
4 those diagrams published by Universal to show how lamps are to  
5 be connected to their ballasts, and those same sheets of paper  
6 which are really product specification sheets show additional  
7 information beyond the wiring of the lamps. They show the  
8 various lamps that can be run on a particular ballast and the  
9 ballast performance when running those lamps.

10 Q. All right. Now, we have labeled this collection of  
11 documents that correspond to this product as Joint Exhibit  
12 No. 77. The first page of that exhibit is this schematic.  
13 Let me put some other documents up here and ask you to  
14 identify them for the jury so they can --

15 A. That is the product specification sheet for this product.  
16 You can see the product name at the top. It says EB254PUNV-D.

17 Q. And is that the Universal product we are looking --

18 A. Yes. The product is B254 without the leading E. It is  
19 that name I read, and E means generation E.

20 Q. All right. Now, you mentioned a wiring diagram. Does  
21 this product specification also include wiring instructions?

22 A. Yes. At the lower part of the sheet you can see diagrams  
23 for how you could connect either one lamp -- I am sorry. Both  
24 of these are two-lamp wiring configurations. Usually it is  
25 for one and two. These are two-lamp wiring configurations for

1 both linear and compact fluorescent lamps. These are large  
2 compact fluorescent lamps, but they are still officially  
3 compact. And there is a notation under the upper one that  
4 describes how to make the connection for a single lamp instead  
5 of two lamps.

6 Q. All right. So these are the linear lamps here where I  
7 highlighted?

8 A. Yes. That is correct.

9 Q. And this shows how to wire the CFLs?

10 A. Yes. Officially let's call them single-ended lamps.

11 Q. Single-ended lamps?

12 A. Right.

13 Q. Now, talk to me a moment about this chart that is here in  
14 the middle. What information does this communicate to you,  
15 Doctor Roberts?

16 A. Okay. These are really pretty versatile ballasts. They  
17 can run a variety of lamps. They can run either one or two  
18 lamps in general. They can run different types of lamps. And  
19 they can operate at either 120 volts input or 277 volts input  
20 with the same product.

21 Q. So does this column here I am now highlighting towards  
22 the left show that it can be used in a one-lamp -- Well, let's  
23 see --

24 A. That column is for the number of lamps being used at a  
25 particular time. Some of the rows are for one lamp and some

1 Q. We will go through and draw them. In any event, you  
2 don't understand that to be -- Well, never mind. We will move  
3 onto the next one, output terminals connected to the filaments  
4 of the gas discharge lamp.

5 Let me hand you, Doctor Roberts, a purple pen, if I can  
6 find it, and ask if you can identify the output terminals on  
7 this schematic. How many sets of output terminals are there?

8 A. There are three sets of output terminals for a total of  
9 six terminals.

10 Q. Would you indicate that?

11 A. These are the upper two.

12 Q. While you are working and drawing that, Doctor Roberts,  
13 is it your understanding that we are using a color scheme that  
14 will correspond to the colors we used previously when we  
15 described Figures 1 and 3 of the patent?

16 A. I will take your word for it.

17 Q. All right.

18 A. On the middle pair there is three and four and on the  
19 lower pair there is five and six.

20 Q. All right. Thank you, Doctor Roberts.

21 And based on your understanding of this language output  
22 terminals connected to the filaments of the gas discharge  
23 lamp, does this product in fact satisfy that requirement?

24 A. Yes, it does.

25 Q. All right. So we will go to our checklist, Doctor

1 Roberts. And, again, is it your expert opinion that this  
2 product Linear Group 1 satisfies the voltage source  
3 requirement?

4 A. Yes.

5 Q. And the output terminals requirement?

6 A. Yes.

7 Q. All right. Let's move on next to the control means  
8 requirement. And these last two, as you know, are a bit more  
9 complicated so we will work our way through them.

10 You recall we talked earlier about the four functions of  
11 the control means requirement. Is that right?

12 A. Yes.

13 Q. Now, a concept that hasn't been discussed in very much  
14 detail today is this concept that in certain claims a patentee  
15 can use a specialized kind of language called means plus  
16 function claiming. Do you understand that?

17 A. Yes, I do.

18 Q. And what do you understand a means plus functioning  
19 requirement to be?

20 A. It means you look back in the specifications to see what  
21 particular arrangement of parts are being used to satisfy that  
22 particular claim, and then you need to provide the same  
23 function with essentially similar -- in essentially similar  
24 manner producing essentially similar results.

25 Q. That was an unfair question. Let me try it this way.

1 You understand that an inventor can use claim language that  
2 recites a limitation by stating the function as opposed to  
3 describing a particular structure that performs that function.

4 A. Yes, I do.

5 Q. All right. And do you have an understanding that in this  
6 case the Court has ruled that Requirement C the control means  
7 requirement is this special kind of claim called -- or special  
8 kind of requirement called a means plus functions requirement?

9 A. Yes, I do.

10 Q. Do you also understand that Element D is a special kind  
11 of claim called a -- direct current blocking means requirement  
12 is also a means plus function?

13 A. Yes, I do.

14 Q. All right. So in doing your infringement analysis, did  
15 you understand that you were effectively instructed by the  
16 Court to perform -- go through some certain steps to do that  
17 infringement analysis?

18 A. Yes.

19 Q. All right. So did you understand that the first part of  
20 that analysis was to identify the functions that are recited  
21 in that requirement?

22 A. Yes, I do.

23 Q. And you understand we went through that process earlier.  
24 I wrote it on the board.

25 A. Right.

1 Q. And you were able to identify four functions?

2 A. Yes, I was.

3 Q. Now, even though the Court and the attorneys have been  
4 very clear that the claims are, what govern the invention, you  
5 understand that in a limited context the Court will point you  
6 back to very specific excerpts in the specification and say,  
7 "Okay. Now, Doctor Roberts, this is what is the structure  
8 that corresponds to those functions"?

9 A. Yes.

10 Q. All right. And do you have an understanding that the  
11 Court in this case identified a segment of the specification  
12 at the bottom of Column 3 and onto the top of Column 4 that we  
13 will look at it in a moment, but he identified that specific  
14 limited part of the specification and said, "Okay. Doctor  
15 Roberts, that is the corresponding structure that has to be  
16 part of your analysis"?

17 A. Yes.

18 Q. And, in fact, let me use one of Mr. Routh's slides that  
19 he used during his opening statement. Some of these were  
20 helpful. This does a nice cull-out. Do you recall -- Were  
21 you here during opening statement when Mr. Routh described  
22 that there is a part of the specification at the bottom of  
23 Column 3 and going onto the top of Column 4 that is what the  
24 Judge has identified as the corresponding structure for the  
25 control means requirement?



1 A. That is correct.

2 Q. All right. Now, do you have an understanding, Doctor  
3 Roberts, that all of this is sometimes referred to as the  
4 Control Circuit 58?

5 A. Yes.

6 Q. And is that because it is labeled as 58 in Figure 1?

7 A. I believe so.

8 Q. All right. And so if we refer today to the Control  
9 Circuit 58, you will understand and the jury can understand  
10 what we are referring to?

11 A. Yes.

12 Q. All right. Now, in terms of deciding whether or not  
13 these products infringe, let me ask you this. Do any of the  
14 products utilize the identical control circuitry taught in  
15 Figure 1, and in this portion of the patent by Mr. Bobel do  
16 any of Universal's products use that very identical control  
17 circuit?

18 A. No.

19 Q. All right. Do you have a further understanding, Doctor  
20 Roberts, that the Court in his rulings has indicated and under  
21 the patent laws has stated that once you identify the  
22 corresponding structure you must then compare that to the  
23 accused products Universal's products and determine if they  
24 have the same structure or an equivalent structure?

25 A. Yes.

1 Q. You recall there was some discussion of that during jury  
2 selection as well?

3 A. Yes, I do remember that.

4 Q. And do you have an understanding if you determine, as one  
5 skilled in the art, that the structure is equivalent, that  
6 there is infringement?

7 MR. ROUTH: Object, Your Honor.

8 THE WITNESS: That is one of the steps.

9 Q. (BY MR. SKEELS) Let me rephrase it. I will withdraw the  
10 question.

11 Do you have an understanding, Doctor Roberts, that if you  
12 find that the structure in Universal's products for the  
13 control circuitry is equivalent to the control structure shown  
14 in Mr. Bobel's patent, then the Universal product has met the  
15 requirement of the control means requirement?

16 MR. ROUTH: Same objection, Your Honor.

17 THE WITNESS: I believe that is one of three  
18 requirements I have to meet.

19 THE COURT: Overruled.

20 Q. (BY MR. SKEELS) I think we are trying to establish, Your  
21 Honor --

22 MR. ROUTH: If the question is what is his opinion,  
23 I don't mind. But if he is saying he can find infringement, I  
24 don't believe that is this witness' role.

25 THE COURT: Just ask him his opinion.

1 MR. SKEELS: All right.

2 Q. (BY MR. SKEELS) Doctor Roberts, in order to form your  
3 opinions as an expert in terms of whether or not Universal's  
4 products infringe, do you have an understanding that you have  
5 to make a determination as to whether Universal's control  
6 circuit is the same or equivalent to the control circuit  
7 taught in Mr. Bobel's '529 Patent?

8 A. Yes.

9 Q. All right. And if you determine that Universal's  
10 products do, in fact, use an equivalent control circuit, do  
11 you understand that you may give an opinion as an expert that  
12 that requirement of the claim language is met?

13 A. That particular limitation of the claim language is  
14 therefore met, yes.

15 Q. All right. So you don't have to prove an identical  
16 control circuit in order to establish infringement?

17 A. That is correct.

18 Q. All right. Now, you may recall that after Mr. Routh  
19 shared this slide with the jury, his very next slide was this  
20 slide.

21 A. Yes, I remember that.

22 Q. And what was your reaction, Doctor Roberts?

23 A. Shocked.

24 Q. Why is that?

25 A. Because that is nothing to do with the means plus

1 function interpretation from the Court.

2 Q. You understand that the Court has never identified  
3 anything in Column 7 or 8 as the corresponding structure for  
4 the control means?

5 A. That is true. That is correct.

6 Q. All right. Now, after identifying the four functions  
7 that we have already talked about, and then going back into  
8 the patent to see what the corresponding structure is that the  
9 Court has identified the Control Circuit 58, did you then  
10 undertake to compare Control Circuit 58 from Bobel's patent to  
11 the control circuit used in the Linear Group 1 product?

12 A. Yes, I did.

13 Q. All right. And were you able to identify control  
14 circuitry in the Linear Group 1 product?

15 A. Yes.

16 Q. All right. Let me hand you a blue pen and ask if you can  
17 identify the control circuitry.

18 A. I just want to check one boundary on one chart. Should I  
19 draw the boundary of the control circuit?

20 Q. Yes, please.

21 A. It includes here, up through here, and this is the two  
22 switches. I am sorry. I need to refer to my diagram again.  
23 This one is so hard to read. Okay.

24 Q. All right. Now, you identified earlier the input  
25 terminal, the control means. That is where the DC input

1 terminal entered the control means. Is that right?

2 A. Yes.

3 Q. You are pointing to a circle on the bottom right portion  
4 of the schematic?

5 A. Yes.

6 Q. Does this control circuit, in fact, perform the same  
7 function, the first function of receiving a control signal  
8 from the DC input terminals?

9 A. Yes, it does; right at that terminal I identified.

10 Q. All right. And when it does that, does it then initiate  
11 oscillations?

12 A. It does. The signal flows down through these resistors  
13 through these discreet transistors and eventually over the  
14 integrated circuit only into a pin labeled EN2 which enables  
15 oscillations.

16 Q. Okay. So you referred to some pins. I am not sure that  
17 is concept that has been introduced to the jury yet.

18 A. The integrated circuit is a large collection of  
19 semiconductor parts on a single piece of silicone, and they  
20 are put together for specific purposes to do advanced  
21 functions. So instead of having a hundred separate  
22 transistors and resistors, you grow them all on one small  
23 silicone chip. It is much less expensive, it is more  
24 reliable, and smaller. And these go into a packet. You then  
25 take the chip and put them into a package, and there are

1 various leads on the electrical connection that go to the  
2 circuit for performing various functions--providing power,  
3 ground --

4 THE COURT REPORTER: I am sorry. I am having  
5 trouble hearing you.

6 THE WITNESS: Various functions such as the power  
7 pin, the ground pin, various pins which receive signals, and  
8 other pins which may essentially output signals. So for the  
9 hundreds of parts in the integrated circuit you are still  
10 limited to a certain number of pins on the package which are  
11 electrical connections. They are called pins because they are  
12 pins that go into a socket or soldered into a board. This  
13 particular circuit, which is identified by that rectangle, has  
14 I think 14 pins on it.

15 Q. Doctor Roberts, why don't you go ahead and highlight in  
16 blue the rectangle that makes up the integrated circuit?

17 A. The integrated circuit is this particular chip, is that  
18 particular device right there on the diagrams.

19 Q. And did you hear during opening statements, Doctor, Mr.  
20 Routh refer to the integrated circuit as the control circuit?

21 A. He did. It sounded to me that he was saying that the  
22 integrated circuit really comprised the entirety of the  
23 control circuit, when in reality it comprises only a portion  
24 of the control circuit, and there are a number of discreet  
25 electronic components outside of the integrated circuit that

1 are part of the control circuit, and it is these parts that  
2 bear the really close similarity to those in the '529 Patent.

3 Q. Do you recall seeing this slide during Mr. Routh's  
4 opening statement?

5 A. Yes, I did.

6 Q. And he indicated that the control circuit taught by  
7 Bobel's patent is so different than used by Universal's  
8 patent, and he relied on that slide. Do you recall that?

9 A. Yes.

10 Q. What was your reaction?

11 A. That those very parts exist in the control circuits of  
12 the ULT products. Even though they are not specifically  
13 identifiable within the integrated circuit, they are  
14 specifically included actually, in their reality, in the  
15 external components of the control circuit of the ULT products  
16 that I analyzed.

17 Q. So in the big blue box or shape that you used to put  
18 around the control circuitry, do you find within that control  
19 circuitry diodes?

20 A. There are indeed diodes. There is a diode in the lower  
21 right hand corner, there are a number of diodes there. Yes, I  
22 do find diodes.

23 Q. What about resistors?

24 A. I certainly find resistors. There are numerous  
25 resistors.

1 Q. What about capacitors?

2 A. There are numerous capacitors in the circuit. There is  
3 one there, there is one there. Yes.

4 Q. Now, do some of their control circuits also have  
5 transistors?

6 A. This one, yes, they almost all -- I think they all do.  
7 This one has five discreet transistors shown outside the  
8 integrated circuit.

9 Q. What about DIACs?

10 A. I know that some of them include -- I would need to see  
11 the other diagram. This one -- I know that some product  
12 groups specifically include a Zener diode that a ULT patent  
13 for that particular describes as being a functional equivalent  
14 of being a DIAC, which I agree 100 percent with. And this one  
15 may include a Zener diode. I just don't see it identified on  
16 the diagram here, but it may or may not.

17 Q. All right. Now, did you understand that you then had to  
18 make a determination about whether the Linear Group 1 control  
19 circuitry was equivalent to the control circuitry taught by  
20 the '529 Patent?

21 A. Yes, I did.

22 Q. Did you reach an opinion in that regard?

23 A. This is equivalent.

24 Q. And what is the basis for -- Why do you say that in your  
25 expert opinion, as one skilled in the art, that it is an



1 equivalent?

2 A. Because it provides the same function in essentially the  
3 same way with essentially -- in substantially the same way and  
4 substantially the same result.

5 Q. All right. Now, did you also reach a determination that  
6 the changes to you, as one skilled in the art, were  
7 insubstantial?

8 A. Yes, I did.

9 Q. And do you have an understanding that the legal test for  
10 determining an equivalent structure is whether, to one skilled  
11 in the art, the differences are insubstantial?

12 A. Yes, I do.

13 Q. Do you have a further understanding that another  
14 additional step you can take to reach your conclusions is to  
15 go through a three-step test that the lawyers sometimes refer  
16 to as a function-way-result test?

17 A. Yes.

18 Q. And did you determine that this control circuit performs  
19 the same function?

20 A. Yes, I did.

21 Q. Did you determine that it performs those functions in  
22 substantially the same way?

23 A. Yes, I did.

24 Q. And did you determine that they achieve substantially the  
25 same result?

1 A. Yes, I did.

2 Q. Does this circuit, in fact, start the oscillations?

3 A. Yes, it does.

4 Q. And does it shut down the oscillations?

5 A. It shuts it down by signal from the resonant converter,  
6 yes.

7 Q. So have you reached a conclusion with regard to whether  
8 or not this requirement of the Claim 1 is met by the Linear  
9 Group 1 product?

10 A. Yes, I have.

11 Q. Let's move on, Doctor Roberts, to the last limitation.  
12 You understand that that is what we call the direct current  
13 blocking means requirement?

14 A. Yes, I do.

15 Q. And I am going to hand you what is a green pen and ask if  
16 you can identify the DC blocking means in this schematic,  
17 please.

18 A. Before I do that, I do want to point out that there is  
19 indeed a Zener diode in this control circuit. It is just too  
20 hard to read on this diagram, but the Zener diode is right  
21 there in the circuit and it performs the same function as one  
22 of the DIACs in Mr. Bobel's circuit.

23 Q. We do have a magnifying glass if you need it.

24 A. It won't help. It is very blurry. Do you want me to  
25 do --

1 Q. Before you get to the direct blocking means, let me ask  
2 you one more thing about the control circuitry I want to ask  
3 about the IC, which you testified was not the entirety of the  
4 control circuitry but part of it. Did you have information  
5 about the integrated circuit?

6 A. I had the manufacturer's date issued for the integrated  
7 circuit. This is a commercially-available integrated circuit,  
8 not a custom device built for ULT. The manufacturer's date  
9 issued. It is available through the manufacturer.

10 Q. I am going to put on the screen, Doctor Roberts, the  
11 cover page -- Let me ask you if you can identify -- this is  
12 exhibit -- Joint Exhibit No. 89. Can you identify for the  
13 jury what that is?

14 A. That is the integrated circuit used in this product  
15 group.

16 Q. Okay. Now, were you able to read this data sheet and  
17 have access to it?

18 A. Yes, I was.

19 Q. And did it provide useful information?

20 A. It provided all of the information I needed. It defines  
21 exactly how the device works from the outside, what each pin  
22 does in the way it functions and the way the device reacts to  
23 different voltages on the pin; on the terminals of the device,  
24 which I am referring to as pins.

25 Q. You talked about the pins, Doctor Roberts. This is

1 page 2 of that same L6574 data sheet. Are these little  
2 squares on the outsides of the rectangle, are those the pins  
3 you are referring to?

4 A. Those are the pins. And I now see this is a 16-pin  
5 device instead of a 14, as I previously said.

6 Q. We will forgive you this one time, Doctor Roberts.

7 A. I understand. Thank you.

8 Q. Do you see this chart at the bottom?

9 A. I do.

10 Q. Does this tell you what all the pins do?

11 A. Yes, it does.

12 Q. Was that sufficient information for you to determine how  
13 this control -- how this I operated in connection with this  
14 product?

15 A. Well, actually there is additional discussion inside the  
16 data sheet that goes into more detail about what each pin  
17 does. For example, in this particular chart, the important  
18 pins EN1 and EN2 have the same description, but inside the  
19 data sheet describes in much greater detail how each pin  
20 functions.

21 Q. All right. These are the pins EN1 and EN2 there?

22 A. That is correct.

23 Q. And these pins were associated with what you described as  
24 either turning on or turning off the oscillations?

25 A. Right. And, in fact, there is a typographical error for

1 the EN1 pin. It is a disabled pin.

2 Q. Right.

3 A. Which is described properly inside.

4 Q. All right. Now let's move onto the DC blocking  
5 limitation, Doctor Roberts. I previously gave you a green pen  
6 which is still in your hand, and would you please identify for  
7 the jury the direct current blocking means, please?

8 A. There are three of them. There are three separate  
9 capacitors. There is one right here associated with the upper  
10 pair of output leads, there is another one right there  
11 associated with the middle pair of output leads in series with  
12 the middle secondary, and there is a third one right there  
13 associated with the lower pair and in series with the third  
14 secondary.

15 Q. All right. So just so we keep our terminology  
16 straight--this jury is taking on a lot of information in a  
17 day--those are three DC blocking circuits or three DC blocking  
18 capacitors that make up --

19 A. A single DC blocking means.

20 Q. All right. Very well. And are those DC blocking  
21 capacitors that you indicated, are they, in fact, coupled to  
22 the output terminals?

23 A. Yes, they are. One end each is connected to an output  
24 terminal and another end is connected through the secondary  
25 winding, and perhaps in one case some additional capacitors.

1 Q. Do you understand pursuant to the Court's ruling that  
2 there must be a DC blocking capacitor to account for each set  
3 of output terminals?

4 A. Yes, I do.

5 Q. And is it shown in this product?

6 A. Yes, it is.

7 Q. Now, are those DC blocking capacitors operable to stop  
8 the flow of the control signal from the DC input terminals  
9 when at least one gas discharge lamp is removed from the  
10 output terminals or is defective?

11 A. Yes, they are. That is basically this one down there, or  
12 that capacitor down there.

13 Q. So could you show the jury, for example, if you were to  
14 pull out that top lamp and break the DC control path in that  
15 way, what would happen?

16 A. Because the middle set of terminals is connected to these  
17 two series connected filaments, one in each lamp, if either  
18 lamp is removed it is like pulling out a lamp on a Christmas  
19 tree string. If either lamp is removed, then this connection  
20 is broken to the middle terminal and the DC current -- and the  
21 DC control current will stop.

22 Q. All right.

23 A. So this one pair of terminals senses when either of the  
24 two lamps is taken out --

25 Q. All right.

1 members of the jury may be able to see it. It is resting on  
2 the floor leaning up against the table.

3 Doctor Roberts, do you see Mr. Routh refers to one-shot  
4 triggers? Do you see that?

5 A. Yes.

6 Q. Is there any requirement in Claim 1 that the product use  
7 a one-shot trigger?

8 A. No.

9 Q. All right. Do you see here that it talks about simple  
10 discreet components versus intelligent circuits here on the  
11 first row? Do you see that?

12 A. Yes.

13 Q. And we did, in fact, confirm that the accused product  
14 uses an IC. Is that right?

15 A. Yes.

16 Q. But it also uses discreet components. Is that right?

17 A. Yes.

18 Q. All right. Do you see here in the second to last row it  
19 talks about strike/restrike lamps without DC control signal?  
20 Can you point the jury to any language in Claim 1 that talks  
21 about restrike versus strike, that makes a distinction between  
22 striking and restriking?

23 A. No.

24 Q. Let me ask you, we talked about the four functions of the  
25 control circuit, and we talked about starting the

1 oscillations. And you recall that testimony and some of my  
2 questions on that?

3 A. Yes.

4 Q. All right. And you recall that Mr. Routh described  
5 during his opening statement that their products, some of  
6 their products start in one way but they -- even if they  
7 restart in a different way. Do you recall that?

8 A. They -- Well, you used slightly different language, but  
9 yes, I do recall that.

10 Q. And what was your reaction to that?

11 A. We are talking about things that are not relevant to  
12 Claim 1 of the '529 Patent.

13 Q. All right.

14 A. They do indeed behave differently in the preferred  
15 embodiment in the '529, but those are not requirements of  
16 Claim 1 of the '529.

17 Q. All right. So when the Claim 1 refers to initiating the  
18 oscillations, does it make any distinction between whether the  
19 product initiates oscillations on restart versus making --  
20 initiating oscillations at the initial start-up?

21 A. It simply says to initiate oscillations, and the DC  
22 control current in these produces does initiate oscillations  
23 after lamps have been replaced.

24 Q. So that is why you stated earlier that this product  
25 satisfies that claim language?



1 A. Yes.

2 Q. Doctor Roberts, do you recall seeing this slide where  
3 Mr. Routh highlighted some language about whether or not the  
4 ballast will not draw any power from a powerline source?

5 A. Yes.

6 Q. Is any of this highlighted language part of Claim 1?

7 A. No, it is not.

8 Q. All right. Is Claim 1 focused on shutting down the  
9 oscillations?

10 A. Yes, it is.

11 Q. And on restarting the ballast when a lamp is reinserted?

12 A. Restarting the oscillations when the lamp is reinserted.

13 Q. All right. Are you able to find -- Were you able to find  
14 any language in Claim 1 that says anything about not drawing  
15 any power from a powerline source whenever lamps are removed  
16 or inoperative?

17 A. No.

18 Q. "How we ended up in Court." Do you recall seeing this  
19 slide, Doctor Roberts?

20 A. I believe so, yes.

21 Q. Okay. And do you see the second bullet point says ULT  
22 had its own designs and its own patents?

23 A. Yes.

24 Q. All right. Did you also hear Mr. Suder talking during  
25 opening statement about respecting --

1 MR. ROUTH: Your Honor, I don't believe this is in  
2 any portion of any disclosed opinion or testimony relating to  
3 this witness. I don't think his report touched it, and I  
4 don't think he talked about it in his deposition.

5 MR. SKEELS: Your Honor, Doctor Roberts did disclose  
6 in his expert report that he relied on a number of -- a lot of  
7 documents, including various patents, including patents ULT  
8 holds, so this is what this is going to with respect to  
9 insofar as ULT tries to avoid infringement by suggesting they  
10 have their own patents. We are entitled to explain why that  
11 is really not an accurate or proper defense.

12 MR. ROUTH: I don't object to them explaining that  
13 through a witness who either has knowledge or disclosed that  
14 knowledge in a report. There is nothing this witness has ever  
15 said about that subject.

16 THE COURT: I will have to look to his report, so go  
17 to another subject and I will try to look at it this evening.

18 MR. SKEELS: Very well.

19 Q. (BY MR. SKEELS) Doctor Roberts, let's take a look at  
20 Linear Group 2. I am going to put another schematic up for  
21 you. Okay?

22 All right. Now, Linear Group 2, the representative  
23 product here is model number B224PUNV-C, generation A. Did  
24 you review this product, Doctor Roberts?

25 A. I did.

1 have an understanding, Doctor Roberts, that sometimes when it  
2 comes to patent claims the preamble is considered a  
3 requirement of the claim and at other times, depending on the  
4 particular case, the preamble is not considered part of the  
5 claim in terms of it being a claim requirement?

6 A. Yes.

7 Q. Let me ask the question this way. Do you have an  
8 understanding as to whether or not Judge O'Connor in this case  
9 has ruled on whether the preamble is one of the requirements  
10 that must be met in this claim?

11 A. I honestly don't remember.

12 Q. All right.

13 A. I know he has ruled. I honestly don't remember which way  
14 he has ruled.

15 Q. All right. Let's assume for a moment that Judge O'Connor  
16 has ruled that the preamble is, in fact, a requirement of the  
17 claim.

18 A. Okay.

19 Q. Does that impact how you interpret the remainder of the  
20 claim? Do you have an understanding as to whether or not that  
21 should influence or inform your analysis of the other claim  
22 requirements?

23 A. Well, it generally informs my analysis, the other claim  
24 requirements. I honestly don't know what you are asking.

25 Q. All right. Fair enough. We will move on.

1           Let me give you, Doctor Roberts, a black pen, and ask if  
2           you can identify the voltage source, whether or not this  
3           schematic satisfies the voltage source requirement?

4           A.    There is a full wave bridge rectifier right there, that  
5           will convert the 60 hertz AC coming in on these terminals into  
6           DC on these terminals.

7           Q.    All right. And let me hand you now a purple pen and ask  
8           if you will please identify the output terminals.

9           A.    There are six output terminals in three pairs. There is  
10          the upper pair, the middle pair, and the lower pair.

11          Q.    All right. Now, are those output terminals, as you  
12          understand the claim language, does this product satisfy the  
13          requirement of output terminals connected to the filaments of  
14          the gas discharge lamp?

15          A.    Yes, it does.

16          Q.    Let me now move to the control means requirement, Doctor  
17          Roberts. And I will hand you a blue pen. Would you please  
18          identify the control circuitry on this product, Doctor  
19          Roberts? If it would be helpful, I have something if you want  
20          to look at --

21          A.    There is always on question about how I did this.

22          Q.    Here is this.

23          A.    Thank you, Mr. Skeels. Okay.

24          Q.    All right. And does this product also include an  
25          integrated circuit within the control circuitry?

1 A. It includes the same integrated circuit we saw before in  
2 a very similar control circuit, yes.

3 Q. All right. And does this control circuitry perform all  
4 four of the functions claimed in this requirement?

5 A. It does.

6 Q. It receives two control signals, and it starts and stops  
7 the oscillations?

8 A. Yes. It receives the second control signal a little bit  
9 differently than the first one, but it receives the second  
10 control signal -- I mean, it does receive the second control  
11 signal.

12 Q. If you haven't done so already, and I am not sure, Doctor  
13 Roberts, would you show for the jury the input terminal of the  
14 control means where the DC control signal enters into the  
15 control circuitry?

16 A. The DC control signal enters the control circuit here at  
17 Yellow 2, at that label Yellow 2, which has been obscured by  
18 my writing.

19 Q. And does that then initiate oscillations?

20 A. That does initiate oscillations by, again, causing signal  
21 to be applied to pin EN2 of the integrated circuit, which is  
22 the enable pin.

23 Q. And does it also receive a control signal from the  
24 integrated converter?

25 A. Yes, it does. It receives a signal from the current

1 flowing through the lower switch, and that signal goes to pin  
2 EN1.

3 Q. All right. Could you identify with a circle or an X the  
4 input where that control signal comes into the control  
5 circuitry?

6 A. It comes in about right there.

7 Q. All right. Now, let me hand you a green pen now, Doctor  
8 Roberts, and ask if you could please identify the direct  
9 current blocking means on this schematic.

10 A. There are three capacitors that make up the direct  
11 current blocking means. There is one up here that is  
12 connected in series with the top secondary winding, there is  
13 one right here that is connected in series with the middle  
14 secondary winding and also connected to the output terminal,  
15 and the third one is down here connected to the third  
16 secondary winding and also the lower -- the lower pair of  
17 output terminals.

18 Q. And if I were to ask you the same questions I were to ask  
19 you about Linear Group 1 with respect to the control circuitry  
20 and whether or not it is an equivalent to the Control  
21 Circuit 58 taught in Mr. Bobel's patent, would your answers be  
22 the same?

23 A. Yes, it is equivalent.

24 Q. Did you perform the same analysis?

25 A. Yes, I did.

1 Q. And did you determine that the differences were  
2 insubstantial?

3 A. Yes, I did.

4 Q. And that is your expert opinion, as one skilled in the  
5 art?

6 A. Yes.

7 Q. All right. I am sorry. I backtracked a moment to the  
8 control means to ask you if you had determined that it was an  
9 equivalent structure.

10 A. Yes, I did.

11 Q. You have now gone ahead to the next requirement, the  
12 direct current blocking means. You have now identified three  
13 DC blocking capacitors. Is that right?

14 A. Yes. That is correct.

15 Q. And those collectively make up the DC blocking means?

16 A. Yes, they do.

17 Q. Are they coupled to the output terminals?

18 A. They are.

19 Q. Do they account for each of the output terminals.

20 A. Yes. There are three of them, and one for each of the  
21 three pairs of output terminals.

22 Q. And the DC blocking collectively, is it operable to stop  
23 the flow from the DC input terminals whenever at least one gas  
24 discharge lamp is removed from the output terminals or is  
25 defective?

1 A. Yes, it is; through the middle pair of output terminals  
2 which are connected to one filament of each of the two lamps.  
3 So if you remove either lamp, the DC control current is  
4 stopped.

5 Q. All right. While you are up there, let's go ahead and  
6 identify -- I don't have it up, but the language of Claim 2 is  
7 right here. Is the resonant converter comprised of a  
8 capacitor and an inductor?

9 A. Yes; inductor, capacitor.

10 Q. And is it -- are those components connected in series via  
11 an intermediate node?

12 A. Yes. The intermediate node is right here.

13 Q. Would you circle in red, please?

14 A. Yes. So if that is an inductor, that is the capacitor,  
15 and they are connected together through an intermediate node.

16 Q. Moving to Claim 5, you have discussed the DC blocking  
17 means from Claim 1. Does the DC blocking means include at  
18 least one capacitor?

19 A. Yes, it does.

20 Q. And is the DC blocking means connected effectively across  
21 at least one heatable filament of at least one gas discharge  
22 lamp?

23 A. Yes, it is. The upper filament of the upper lamp and the  
24 lower filament of the lower lamp.

25 Q. All right. And Doctor Roberts, have you reached



1 Q. Let me put up the wiring diagram. This, by the way, is  
2 Joint Exhibit No. 81, which includes the schematic. This  
3 exhibit also includes in its collection this --

4 A. It can accommodate up to three lamps.

5 Q. All right. Now, does it also operate in a two-lamp  
6 configuration?

7 A. Yes, it does.

8 Q. All right. For today's purposes in terms of describing  
9 how this operates in an infringing manner, can you tell the  
10 jury whether we are going to be describing in a two- or  
11 three-lamp configuration?

12 A. We are going to be describing this in a two-lamp  
13 configuration.

14 Q. All right. Now, let's look first at the preamble of  
15 Claim 1, Doctor Roberts. Does this schematic reflect an  
16 energy conversion device?

17 A. Yes, it does.

18 Q. Does it employ an oscillating resonant converter  
19 producing oscillations?

20 A. Yes, it does.

21 Q. Does it teach having DC input terminals producing a  
22 control signal?

23 A. Yes, it does.

24 Q. And is this device adapted to power at least one gas  
25 discharge lamp having heatable filaments?

1 A. Yes, it is.

2 Q. All right. Does this product also satisfy the voltage  
3 source limitation?

4 A. Yes, it does.

5 Q. Does it teach a rectifier?

6 A. It does.

7 Q. And that is what converts the AC to the DC?

8 A. It has a full wave rectifier, yes.

9 Q. Does it also satisfy the Requirement B of having output  
10 terminals connected to the filaments of the gas discharge  
11 lamps?

12 A. Yes, it does.

13 Q. Does it satisfy the control means requirement?

14 A. Yes, it does.

15 Q. Now, if I were to ask you the same questions that I asked  
16 you before with respect to whether or not you went through the  
17 appropriate means plus function analysis by first identifying  
18 the functions by then referring to the corresponding structure  
19 identified by Judge O'Connor, and then comparing that  
20 corresponding structure to the control circuit taught by  
21 Mr. Bobel to determine whether or not it was the same or  
22 equivalent, did you, in fact, do that analysis?

23 A. Yes, I did.

24 Q. And did you determine that this Linear Group 3 product  
25 uses -- has an equivalent structure?

1 A. Yes, I did.

2 Q. All right. Does this product again use an integrated  
3 circuit as part of its control circuitry?

4 A. It uses the same integrated circuit as Group 1 and 2,  
5 L6574.

6 Q. And you were able to determine that the control structure  
7 was equivalent because, in your mind as an expert, one skilled  
8 in the art, the differences as far as you were concerned were  
9 insubstantial?

10 A. That is correct.

11 Q. And you followed up on that analysis by also performing  
12 this function wave result analysis?

13 A. Yes, I did.

14 Q. And you determined that the control circuit taught by  
15 Linear Group 3 performed the same functions?

16 A. Yes.

17 Q. And substantially the same way?

18 A. Yes.

19 Q. To achieve substantially the same result?

20 A. Yes.

21 Q. All right. And does this Linear Group 3 product also  
22 satisfy the direct current blocking means requirement of  
23 Claim 1?

24 A. Yes, it does.

25 Q. Does it teach DC blocking capacitors coupled to each or

1 accounting for each set of output terminals?

2 A. Yes. There are more than three sets of output terminals  
3 and on this one each one has a DC blocking capacitor.

4 Q. Let me have you go ahead and have you draw the DC  
5 blocking means in green. And I can give you a black pen and  
6 you can draw how the lamps can be configured in a two-lamp  
7 configuration. I will put the black pen up here and you can  
8 use it when you are ready for it.

9 A. There is five sets of output terminals.

10 Q. Doctor Roberts, let me stop you real quick. Draw the  
11 output terminals in purple and the DC blocking units in green.  
12 Thank you.

13 A. This is one pair, two pairs, three pairs, four pairs, and  
14 five pairs. So there are ten output terminals. There are  
15 five pairs of output terminals.

16 Q. All right. Let me take that purple pen off your hands.  
17 With the black pen would you draw the two lamps that are being  
18 used --

19 A. Do you have the color chart to refer to? Considering  
20 there are five sets of terminals, I want to make sure I get  
21 them on the right place.

22 Q. I do.

23 A. Thank you. Okay. So in a two-lamp configuration you  
24 don't use the lower two pairs.

25 Q. All right. I am now going to hand you -- Now that you

**Trial Transcript, Volume A, Dated June 14, 2011**

1 Q. Long day yesterday, wasn't it?

2 A. It was.

3 Q. All right. Let's see if we can continue moving through  
4 these and get through your testimony. Just to summarize what  
5 we went through yesterday, Dr. Roberts, you recall we looked  
6 at Exhibit 77 which were the technical documents for the  
7 Linear 1 product?

8 A. Yes, sir.

9 Q. And you concluded that that product infringed claim 1, 2,  
10 and 5. Is that right?

11 A. That's correct.

12 Q. And then we looked at exhibit -- Joint Exhibit No. 79  
13 which were the technical documents for the Linear 2 product  
14 and likewise you concluded that those products infringed  
15 claims 1, 2, and 5. Is that right?

16 A. I do not remember the document numbers but I remember the  
17 product groups and the infringement, yes.

18 Q. All right. Let's go ahead and move on to the Linear  
19 Group 4 product, Dr. Roberts. And those documents as far as  
20 the Court's exhibits are concerned are from Joint Exhibit 82.  
21 Those are the technical documents and I'll ask you the same  
22 question that I asked you before. Did you review technical  
23 documents associated with that product?

24 A. I did.

25 Q. Did you review the product schematics?

1 A. I did.

2 Q. And you reviewed a product specification and wiring  
3 diagram?

4 A. Yes. And the parts list, yes.

5 Q. And the components parts list. And did you have  
6 everything you needed to reach a conclusion as to whether or  
7 not --

8 A. Yes, I did.

9 Q. I'm sorry. You had -- you were able to have all the  
10 information you needed to make a determination of  
11 infringement?

12 A. Yes, I did.

13 Q. And just to be clear, we talked about the wiring -- the  
14 wiring diagrams and the product specifications yesterday and  
15 you indicated that they include information -- Let me show you  
16 this one real quick.

17 A. They show the customer the lamps that can be run on that  
18 particular model ballast whether in one or two lamp  
19 configuration or sometimes more, depending on the ballast, and  
20 the performance data when running those lamps at various line  
21 voltages.

22 Q. Okay. And you're referring to the product dated, you're  
23 referring to that chart at the top half of the page?

24 A. That's correct.

25 Q. In order to gather that data, ULT has to do some sort of

1 product testing or verifications at one of their facilities by  
2 hooking these ballasts up to actual lamps and writing down  
3 this data?

4 A. Well, somebody certainly has to do that and I'm assuming  
5 ULT does it in-house and does not contract it out.

6 Q. And the same would be true of all the products that we're  
7 looking at today?

8 A. Yes.

9 Q. And yesterday?

10 A. Yes..

11 Q. All right. Dr. Roberts, we have up on the easel for you  
12 the Linear Group 4 product and I'm going to --

13 A. Mr. Skeels, can I request the hand microphone that I had  
14 yesterday? Thank you, sir. Is this on? Yes, it is. Okay.  
15 And would you like me to draw the lamps on this figure?

16 Q. Yes, if you would. I am looking for my pen.

17 A. There are two of them up here.

18 **MR. SKEELS:** May I proceed into the well again, Your  
19 Honor?

20 **THE COURT:** Yes, sir.

21 **BY MR. SKEELS:**

22 Q. Dr. Roberts, let me give you a black pen and ask if you  
23 would again go ahead and draw the lamp that's involved in this  
24 two lamp configuration.

25 A. Okay. These terminals are clearly labeled as red, yellow



1 and blue, which is the standard configuration of the three  
2 sets of terminals. They're not always labeled that way in the  
3 diagrams, they are not always labeled at all and sometimes  
4 labeled differently.

5 The red pair goes to the top filament of the top  
6 lamp. The yellow pair goes across the center -- the lower  
7 filament of the top lamp and the upper filament of the lower  
8 lamp. And the blue pair goes to the lower filament of the  
9 lower lamp.

10 Q. Thank you, Dr. Roberts. I'm going to hand you a red pen  
11 and ask if you would please identify the oscillating resonant  
12 converter.

13 A. The oscillating resonant converter, it's one of those  
14 incredibly difficult to read diagrams. Let me refer to my  
15 better copy. Make sure I have the capacitor right.

16 Q. Your Honor, I also have a chart if it would assist you --

17 A. The resonant conductor is right here and the resonant  
18 capacitor is right there. The two switches are there and  
19 those constitute the identified components of the resonant  
20 converter as identified by the Court.

21 Q. Thank you, Doctor. I'm going to hand you a brown pen and  
22 ask if you can please trace the DC control signal.

23 A. The DC control signal starts at the DC input terminals  
24 which is the output of the four way bridge right here. Closed  
25 along this line. Through these conductors and the power

1 conditioning circuit. Through diode. Down here -- I'm sorry,  
2 this is too fuzzy. Excuse me.

3 It branches off here. Goes to the yellow leads. And  
4 then into the two -- and then into the two filaments connected  
5 to the yellow leads, back into this yellow lead, into the  
6 lower yellow lead, and then into the control circuit. Excuse  
7 me a second. Oh, okay. I'm sorry.

8 And then down this way into a terminal that's labeled  
9 DCC. And that terminal matches the label over here. So, it  
10 jumps over there. This has a different integrated circuit  
11 than the other control circuits and in this case the DC  
12 control current actually provides power for the integrated  
13 circuit. So, it comes from this label over to the label which  
14 is the power label for that integrated circuit.

15 Q. All right. We'll address the integrated circuit in a  
16 moment.

17 A. All right.

18 Q. Is this device, is it adapted to power at least one gas  
19 discharge lamp with heatable filaments?

20 A. Yes, it is. It's adapted to power two. Well, it's  
21 adapted to power one or two. We are showing it in the two  
22 lamp configuration.

23 Q. Thank you, Dr. Roberts. Let me hand you a black pen and  
24 also a purple pen and ask if you would, please, identify the  
25 rectifier with the black pen?

1 A. The four way bridge rectifier is composed of these four  
2 diodes that are there inside that -- that black circle. And  
3 what was the purple?

4 Q. With the purple pen, would you, please, identify the  
5 output terminals, Doctor?

6 A. The six output terminals, which are three pairs, there are  
7 the two of the upper pair, red, there are the two of the  
8 yellow pair, and the two of the blue pair.

9 Q. Let me now hand you a blue pen, Dr. Roberts, and if you  
10 believe one of your charts may be helpful in drawing the  
11 control circuit --

12 A. Yes. I would like to see that. I'm going to begin,  
13 there's always the issue of the upper right -- I'm sorry.  
14 Around the two switches. Do you have the chart? I want to  
15 see what the -- Okay.

16 Q. Could you also with that blue pen, Dr. Roberts, indicate  
17 where the two control signals are received?

18 A. The first control signal is received, the one from the DC  
19 control current is received over there, as I indicated. The  
20 second one is received -- I'm sorry. The second one is  
21 received at the top of the resonant capacitor right there.  
22 The signal from the resonant converter comes from the  
23 intermediate node, the junction between the resonant inductor  
24 and the resonant capacitor.

25 Q. In determining the requirements, Dr. Roberts, did you

1 undertake that the analysis that you understand the law  
2 requires to determine whether or not this is an equivalent  
3 structure to the control structure 58 taught by Mr. Bobel's  
4 patent?

5 A. Yes, I did.

6 Q. Did you determine that it was equivalent?

7 A. Yes, I did.

8 Q. All right. You determined -- you went through four  
9 functions -- it performs those four functions?

10 A. Yes, it does.

11 Q. And you determined that it --

12 A. It shuts down and it restarts based on the proper control  
13 signals.

14 Q. The oscillations shut down --

15 A. The oscillations are shut down and the oscillations are  
16 restarted based on the proper control signals.

17 Q. Let me now hand you a green pen, Dr. Roberts, and ask you  
18 to please identify the direct current blocking means on this  
19 particular schematic.

20 A. There are three capacitors -- Let me use this -- all  
21 right. The capacitor right there. There is a capacitor which  
22 is here which is extremely fuzzy and I'm apologizing for that  
23 being that way. And there's another one here.

24 Q. All right. And have you determined that this product  
25 schematic or this product that's represented by the schematic

1 satisfies the DC blocking means requirement?

2 A. Yes, it does.

3 Q. It meets all the limitations that we've seen here in the  
4 language of the direct current blocking means?

5 A. Yes. When we remove either lamp, the filaments connected  
6 to the yellow terminals are removed and that blocks the DC  
7 control current from flowing at that spot.

8 Q. All right. Now, let me ask you about claim 2. Have you  
9 determined that whether or not it satisfies claim 2?

10 A. Yes, it does. There's a -- the resonant inductor and the  
11 resonant capacitor are connected directly together at the  
12 intermediate node.

13 Q. Have you identified that intermediate node?

14 A. Not specifically.

15 Q. Would you do that, please?

16 A. It's right there. Okay.

17 Q. And with respect to claim 5, Dr. Roberts, have you  
18 determined whether or not this infringes -- whether or not --  
19 do you have an opinion as to whether this product infringes  
20 claim 5?

21 A. There are two terminals connected across filaments of  
22 lamps at the top of the upper lamp and the bottom of the lower  
23 lamp, the red terminals and the blue terminals are connected  
24 across.

25 Q. All right. And, Dr. Roberts, with respect to our chart

1 here, have you reached an opinion as to whether Linear Group 4  
2 product infringes claim 1?

3 A. Yes, sir, I have.

4 Q. What is that opinion?

5 A. It does.

6 Q. And you have reached an opinion with respect to whether or  
7 not it infringes claim 2?

8 A. It does.

9 Q. Dr. Roberts, I'm going to hand you what's been marked as  
10 Plaintiff's Exhibit No. 66. I'm going to hand you what's been  
11 marked as Plaintiff's Exhibit No. 65. And I'm going to mark  
12 the chart on which you were drawing as Plaintiff's Exhibit No.  
13 67. Do you believe that these would assist the jury in  
14 understanding your testimony?

15 A. Yes, I do.

16 MR. SKEELS: Your Honor, at this time we offer  
17 plaintiff's 65, 66, and 67.

18 MR. ROUTH: No objection, Your Honor.

19 THE COURT: They will be admitted.

20 (Admitted in Evidence as Plaintiff's Exhibits 65, 66, and  
21 67.

22 MR. SKEELS: Your Honor, may I now publish that chart  
23 to the jury?

24 THE COURT: Yes.

25 BY MR. SKEELS:

1 Q. All right. Dr. Roberts, while the members of the jury are  
2 taking a look at that, I'm going to put up the next schematic.  
3 We're moving on from the linear products to the CFL or compact  
4 fluorescent lamp products. Is that right?

5 A. That's correct.

6 Q. Now, let me ask you, Dr. Roberts, did you look at  
7 documents associated with the CFL 1 product and the CFL 2  
8 products?

9 A. Yes, I did.

10 Q. And, Dr. Roberts, I'm holding a lamp in my hand. Is that  
11 an example of a CFL?

12 A. Yes, it is. The type of CFL to be used with these  
13 ballasts. The type that does not have its own built in  
14 ballast.

15 Q. It's sometimes referred to as a one end lamp?

16 A. A single ended lamp.

17 Q. A single ended lamp. Now, again, the same question I  
18 asked you before. With respect to documents that you  
19 reviewed, did you review -- did you have available to you all  
20 the documents you needed to reach a determination of  
21 infringement for the CFL Group 1 products?

22 A. I did.

23 Q. Now, you're aware that the -- the products have been  
24 lumped into a CFL 1 group and a CFL 2 group?

25 A. Yes.

1 Q. And have you -- have you reviewed the documents from both  
2 groups?

3 A. Yes, I have.

4 Q. And are the -- do you have an opinion as to whether there  
5 are any differences between those two groups?

6 A. Well, in respect to anything that is related to the  
7 infringement of the patent, they are identical.

8 Q. Were the schematics identical?

9 A. Well, there are possibly small differences in the  
10 schematics, they are different product groups by ULT, but in  
11 regards to everything related to infringement, they are  
12 identical.

13 Q. So, in terms of the things we're going to discuss and draw  
14 today for purposes of infringement by the CFL Group 1 product,  
15 do all those things apply equally to the CFL Group 2 product?

16 A. Yes, they do.

17 Q. All right.

18 MR. SKEELS: Your Honor, may I publish this CFL lamp  
19 to the jury? Thank you.

20 BY MR. SKEELS:

21 Q. And so the record is clear, Dr. Roberts, you understand  
22 the parties Joint Exhibit list, Exhibit 83, are the technical  
23 documents for the CFL 1 group and Exhibit 85 are the technical  
24 documents for the CFL 2 group. You indicated you reviewed all  
25 those documents?



1 A. Yes.

2 Q. All right. Now, Dr. Roberts, is this a product that is  
3 capable of operating in either a one lamp or a two lamp  
4 configuration?

5 A. Yes, it is.

6 Q. And are you going to be discussing it -- which of those  
7 configurations are you going to be describing?

8 A. In a one lamp configuration.

9 Q. Let me hand you a black pen, Dr. Roberts, and ask you if  
10 you would go ahead and draw the one lamp.

11 A. I'm going to draw the lamp as a linear lamp with the  
12 understanding that a CFL is nothing more than a linear lamp  
13 folded up, so it takes up less space. It's still one complete  
14 discharge lamp when you take a look at it. So, even though  
15 this is a CFL, the picture will be linear. I just can't draw  
16 well enough to do a CFL.

17 So, there's one filament connected to the upper  
18 terminals which are generally red. I'm not sure if they are  
19 labeled in this one that way and one filament connected to the  
20 lower terminals in this analysis.

21 Q. All right.

22 A. And we don't use the middle terminals.

23 Q. Okay.

24 A. Which are generally yellow.

25 Q. Now, does this product have an oscillating resonant

1 converter?

2 A. Yes, it does.

3 Q. Would you please identify those --

4 A. It has a resonant inductor right there. It has a resonant  
5 capacitor there and two switches there and there.

6 Q. And does this schematic show DC input terminals producing  
7 a control signal, Dr. Roberts?

8 A. Yes, it does. The DC input terminals are at the output of  
9 the four way bridge. Do you want me to draw the control  
10 signal.

11 Q. Yes, please.

12 A. The control signal flows across there, flows up, flows  
13 across this lead, flows through these resistor strings, out a  
14 terminal through the upper filament, back -- back into the  
15 lower -- into the second of the upper terminals. I need to  
16 find -- oh, I'm sorry. Goes down. There's a resistor across  
17 the L terminal so it can flow even when there's no lamp  
18 connected to there. It then flows down here and it flows into  
19 the blue terminal -- I'm sorry -- into the filament connected  
20 to the lower terminal which is normally blue and then back  
21 into the lower of the lower terminals, the second of the lower  
22 terminals, and then enters the control circuit right there.

23 Q. Dr. Roberts, I'm handing you a black pen. Could you,  
24 please, identify the components that comprise the -- satisfy  
25 the voltage source requirement?

1 A. The voltage source requirement is the four way bridge  
2 rectifier which are these four diodes over at the input.

3 Q. All right. And then I'm going to hand you a purple pen  
4 and ask if you could please identify the output terminals,  
5 Dr. Roberts.

6 A. There are six output terminals. One, two, three, four,  
7 five, six.

8 Q. So, are there three sets of output terminals?

9 A. There are three sets of output terminals. Three pairs of  
10 output terminals.

11 Q. Are those output terminals for connection to the  
12 equivalent gas discharge clamp?

13 A. Yes, they are.

14 Q. In your understanding of the language, does this satisfy  
15 this -- What I'm going to do, Dr. Roberts, is to sometimes  
16 refer to these elements as A, B, C, and D, so we have the  
17 preamble and then A, B, C, and D and the element B is the  
18 output terminal. Does that in your opinion, does that satisfy  
19 that requirement?

20 A. Yes, it does.

21 Q. All right. I'm going to now hand you a blue pen,  
22 Dr. Roberts, and ask if you would please identify the control  
23 circuit.

24 A. May I see your chart again. Okay. It's -- that's up  
25 here. Go up and include these parts over there. Come across.

1 We exclude the resonant converters -- I'm sorry -- the  
2 resonant converter switches.

3 Q. Dr. Roberts, just a reminder, you don't have to talk us  
4 through it, but if you are going to mention the components,  
5 make sure you speak up so our court reporter can follow you.

6 A. Okay. Okay. I'll be quiet. I'm sorry.

7 Q. Would you also identify with the blue pen, Dr. Roberts,  
8 the point at which the DC input terminal, the DC control  
9 signal is received?

10 A. That's this point identified previously at the lower of --  
11 at the lowest of the six terminals. It enters the control  
12 circuit between two diodes which I cannot read the numbers of  
13 there on that particular chart.

14 Q. All right.

15 Q. Would you also identify the input terminal for the control  
16 means where the -- where it received the control signal from  
17 the resonant converter?

18 A. The control signal from the resonant converter is right  
19 here. It's at the intermediate node. It's at the top of this  
20 set of four resistors. In fact, I believe -- it's secured in  
21 that diagram as a small capacitor at the top. Yes. I'm  
22 sorry. There are three resistors and a capacitor at the top  
23 instead of four resistors and it enters at the top of that  
24 capacitor.

25 Q. All right. And did you review this product, Dr. Roberts,

1 to determine whether or not it performs all the functions  
2 required by requirement C?

3 A. I did.

4 Q. And does it?

5 A. Yes, it does.

6 Q. And did you determine that -- did you then compare this  
7 control circuit to the control circuit 58 taught by  
8 Mr. Bobel's patent?

9 A. Yes, I did.

10 Q. Did you reach a determination as to whether or not they  
11 were equivalent?

12 A. Yes, I did.

13 Q. Did you reach a determination?

14 A. They are.

15 Q. Why did you reach that conclusion?

16 A. Because they perform the same function in substantially  
17 the same manner to achieve substantially the same result.

18 Q. All right. In other words, does it shut down the  
19 oscillations?

20 A. It shuts down the oscillations when the circuit is  
21 unloaded, when the lamp is removed, when a lamp fails and when  
22 a lamp fails to start, and it restarts the oscillations after  
23 a lamp has been removed and replaced.

24 Q. All right. And does this control circuit include, among  
25 other things, an integrated circuit?

1 A. Yes, it does. It's the same integrated circuit we saw in  
2 linear groups 1, 2, and 3.

3 Q. All right.

4 A. And it works obviously in the same manner has that control  
5 circuit for linear groups 1, 2, and 3.

6 Q. That's the L 6574 IC?

7 A. Yes.

8 Q. Let me hand you then, Dr. Roberts, a green pen and ask you  
9 if you would please identify the correct term blocking means.

10 A. There are three of them. There's one here, which is the  
11 series with the secondary, there's one here in the series with  
12 the middle secondary, and there's one here in the series with  
13 the lower secondary.

14 Q. And does the direct term blocking means that you've  
15 identified, Dr. Roberts, satisfy requirement D?

16 A. When the lamp is removed, the DC control current is  
17 completely stopped at the upper pair of terminals and/or at  
18 the lower pair of terminals.

19 Q. So, it stops control of the flow signal?

20 A. Yes, it does.

21 Q. When the DC path is broken?

22 A. Yes.

23 Q. All right. With respect to claim 2, Dr. Roberts, does  
24 this product, in your opinion, infringe claim 2?

25 A. Yes, it does. The resonant capacitor and resonant

1 conductor are connected directly together at an intermediate  
2 node.

3 Q. I'll give you a red pen so you can identify the  
4 intermediate node.

5 A. It's this connection point right there. Okay.

6 Q. All right. With respect to claim 5, Dr. Roberts, have you  
7 reached a conclusion or an opinion as to whether it infringes  
8 claim 5?

9 A. Yes. The -- both the output terminals show they're  
10 connected across the filaments of lamps.

11 Q. All right. Dr. Roberts, in your opinion, did you reach an  
12 opinion as to whether or not this product infringes claim 1 of  
13 the '529 patent?

14 A. Yes, it does.

15 Q. So, we can go ahead and check all these requirements that  
16 we went through. Is that right?

17 A. Yes.

18 Q. And did you reach an opinion as to whether or not the  
19 product infringes groups -- claims 2 and 5?

20 A. It does.

21 Q. All right. Dr. Roberts, I'm going to hand you what's been  
22 marked as Plaintiff's Exhibit No. 68. I'm also going to mark  
23 the schematic on which you drew with the markers as  
24 Plaintiff's Exhibit No. 69 and I'm going to hand you what's  
25 been marked as Plaintiff's Exhibit No. 70. Do you believe

1 these exhibits would be helpful to the jury in understanding  
2 your testimony?

3 A. Yes, I do.

4 MR. SKEELS: Your Honor, at this time plaintiffs  
5 offer Plaintiff's Exhibits No. 68, 69, and 70.

6 MR. ROUTH: If we can see them. I want to make sure  
7 I understand the order. No objection, Your Honor.

8 THE COURT: They will be admitted.

9 (Admitted in Evidence as Plaintiff's Exhibits 68, 69, and  
10 70.

11 MR. SKEELS: Your Honor, may I now publish this chart  
12 to the jury?

13 THE COURT: Yes.

14 MR. SKEELS: Thank you.

15 BY MR. SKEELS:

16 Q. Dr. Roberts, I'm now going to put up on the easel a blown  
17 up schematic that we have created corresponding to the CFL  
18 Group 2 and as we discussed earlier. Dr. Roberts, for  
19 purposes of your infringement analysis, is this schematic the  
20 same insofar as all relevant components are concerned?

21 A. In the components relative to infringement, I believe this  
22 is the same schematic, yes. It is my opinion they are the  
23 same. I would have drawn exactly the same marks in the  
24 exactly the same places.

25 Q. If I asked you all the same questions I just asked you



1 about the CFL Group 1 product and asked you those same  
2 questions with regard to the CFL Group 2 product, would your  
3 answers be the same?

4 A. Yes they would.

5 Q. If I asked to you draw what you just drew on the group 1  
6 schematic, would you draw all the same things on the group 2  
7 schematic?

8 A. Yes, I would.

9 Q. So, we have the score card out, Dr. Roberts. Is it your  
10 opinion -- have you reached an opinion as to whether or not  
11 the CFL Group 2 product satisfies all the requirements of  
12 claim 1 of Mr. Bobel's patent?

13 A. Yes, I have.

14 Q. And what is that opinion?

15 A. It does satisfy all the requirements for claim 1. It does  
16 infringe claim 1, in my opinion.

17 Q. So, I can check off all these requirements?

18 A. Yes, can you.

19 Q. And with respect, Dr. Roberts, to claims 2 and 5, is the  
20 same thing true?

21 A. Yes, it is. It's my opinion it infringes both those two  
22 claims, No. 2 and No. 5.

23 Q. All right. Dr. Roberts, I'm going to hand to you  
24 Plaintiff's Exhibit No. 71 and Plaintiff's Exhibit No. 72.  
25 Number 71, is that a chart that you were involved in creating

1 that helps -- that accurately summarizes your testimony with  
2 respect to infringement by that product?

3 A. Yes.

4 Q. Do you believe it would assist in helping the jury  
5 understand your testimony?

6 A. I do.

7 Q. Is the same true with respect to Plaintiff's Exhibit  
8 No. 73?

9 A. Yes.

10 **MR. SKEELS:** Your Honor, at this time we offer  
11 plaintiff's No. 71 and plaintiff's No. 73. Let me offer --  
12 Let me mark one more. Let me mark this schematic as  
13 Plaintiff's Exhibit No. 72. Your Honor, we would offer  
14 Plaintiff's No. 71, 72, and 73.

15 **MR. ROUTH:** No objection, Your Honor.

16 **THE COURT:** They will be admitted.

17 (Admitted in Evidence as Plaintiff's Exhibits 71, 72, and  
18 73.

19 **MR. SKEELS:** Your Honor, may I publish Plaintiff's  
20 Exhibit No. 71 to the jury?

21 **THE COURT:** Yes, sir.

22 **BY MR. SKEELS:**

23 Q. Dr. Roberts, before I move on to the next group, I did  
24 want to ask you briefly about the wiring diagram. This is  
25 from Joint Exhibit No. 83 that corresponds to the CFL Group 1

1 product and I'll represent to you that this is the product  
2 specification for the C 2642 UNV product.

3 A. Okay. Yes.

4 Q. Is that a document that you recognize?

5 A. Yes, it is.

6 Q. All right. And for the record, this is also Bates number  
7 ULT 025798. Does it -- Let me ask you first about the wiring  
8 diagram, Dr. Roberts. Is that a diagram you've seen before?

9 A. Yes, it is. There are three diagrams there.

10 Q. Does it indicate that it can be wired in a one lamp or a  
11 two lamp configuration?

12 A. Yes, it does.

13 Q. Today we described its use in a one lamp configuration.  
14 Is that right?

15 A. We did.

16 Q. All right. And then again, looking back at the top of the  
17 document, is that a chart that indicates data provided by ULT?

18 A. Yes, it does.

19 Q. And how does it obtain that data?

20 A. That data is obtained by measurement of the ballast  
21 operating those particular types of lamps at the operating  
22 conditions indicated on the chart.

23 Q. All right. And, Dr. Roberts, in Joint Exhibit No. 6 --

24 Excuse me -- 85, that's the exhibit associated with CFL Group

25 2. If I asked you about that wiring diagram and product

1 specification, the same questions, would your answers be the  
2 same?

3 A. Yes.

4 Q. Before I move on to the last product, Dr. Roberts, I need  
5 to go back and ask you one thing about the Linear Group 4  
6 product. You indicated that it uses a different IC than the  
7 others?

8 A. Yes. An IC in this case made by Phillips or a subsidiary  
9 of Phillips.

10 Q. Now, Exhibit 89, Dr. Roberts, was a data sheets notebook.  
11 Joint Exhibit 89. Let me show you an excerpt from that  
12 exhibit.

13 A. That looks like the front page of the data sheet. In  
14 fact, it says product data sheet in the upper right-hand  
15 corner.

16 Q. For the integrated circuit used in the Group 4 products?

17 A. Yes. The UBA 2014.

18 Q. I'm going to flip to a different page. Would you tell the  
19 jury briefly what is on this page?

20 A. At the top it shows which pin provides which function and  
21 in the lower table it describes the pins by their identifying  
22 label and a short description of the function they perform.  
23 There's a longer description further into the data sheet.

24 Q. And did you have all the information you needed to  
25 determine how this integrated circuit performed?

1 A. Yes, I did.

2 Q. And the functions that it served?

3 A. Yes.

4 Q. All right. Let me now move to final group, Dr. Roberts,  
5 which is the ES Group, sometimes also referred to as the  
6 microprocessor group and the technical documents for that  
7 product are at Joint Exhibit 87. We'll be looking at some of  
8 those in a moment. While I'm putting that schematic up,  
9 Dr. Roberts, can you explain to the jury the difference -- one  
10 of the main differences between this product and the other  
11 product groups?

12 A. The other product groups use an integrated circuit that's  
13 specifically designed to run ballasts and it provides -- it's  
14 really predesigned to have certain control functions required  
15 by the ballasts and additional control functions are provided  
16 by the discrete circuitry outside the integrated circuit that  
17 we have discussed.

18 In this particular circuit, they use a general  
19 purpose microcontroller which is a microprocessor with some  
20 additional elements which is designed to do almost any task  
21 once you program it properly. And -- and you actually write  
22 code for this, like -- you write a little computer program  
23 like you would do for any other computer program. And this  
24 one is embedded into the device, burned into the device, and  
25 then it executes that particular computer code all the time

1 when it's running. It's a very small computer. Very small  
2 amount of computer code. It's very simple compared to the  
3 things which you might run our normal home computer. But it  
4 is a full computer.

5 Q. All right. Since I have it here handy, Dr. Roberts, let  
6 me show you a document that is part of Joint Exhibit 87. Do  
7 you recognize this document?

8 A. Yes, I do. It's the product data sheet for this  
9 particular ballast, ES 4800 A.

10 Q. And it has a chart at the top that provides certain  
11 performance data. Is that right?

12 A. Yes, it does.

13 Q. All right. And how is that document -- how is that data  
14 obtained?

15 A. By setting the ballast up with these lamp types and these  
16 input voltages and measuring the data.

17 Q. All right. And then at the bottom, Dr. Roberts, is that  
18 the wiring diagram?

19 A. That's the wiring diagram for both the two lamp  
20 configuration and a one lamp configuration.

21 Q. And today we'll be discussing this product's use in a one  
22 lamp configuration. Is that right?

23 A. That's correct.

24 Q. All right. Now, Dr. Roberts, let me ask you, first of  
25 all, is this an energy -- does this schematic represent a

1 Let me see the diagram.

2 Q. Let me hand you that. Let me see if you have the daughter  
3 board.

4 A. No, actually, I don't need that. I see it. I'm sorry.

5 There are connection -- there are connection points at the  
6 bottom. Okay. It goes up -- goes back up here and into the  
7 control circuit at that spot. Okay? Thank you, Mr. Skeels.

8 Q. Thank you.

9 A. Some of these do contain daughter boards. This one does  
10 not. It's just on the one board, these terminals down there  
11 are similar to some of the daughter board terminals.

12 Q. Okay.

13 A. They are similar to some of the daughter board terminals.  
14 And then from there it eventually makes its way through  
15 various discrete components into the microprocessor.

16 Q. All right. Now, is this a device that's adapted to power  
17 to at least one gas discharge lamp?

18 A. Yes. It's shown powering one.

19 Q. Let me ask you about the voltage source requirement,  
20 requirement A. Does that satisfy that requirement?

21 A. It does. There's a four way bridge rectifier. It's  
22 composed, as usual, of four diodes which is right -- I'm  
23 circling now, and that converts from AC into DC.

24 Q. Does this schematic show output terminals for connection  
25 to the lamps?

1 A. It shows six output terminals. They are very close  
2 together. It's really hard on this diagram, it's hard to draw  
3 individual circles without them overlapping, but there are six  
4 wires going to this little block. This diagram is drawn by a  
5 predecessor company or a company that ULT bought the rights to  
6 or bought the products from or absorbed -- I'm not sure, but  
7 anyway, it's drawn by a different organization so it looks a  
8 little bit different.

9 Q. We call this the ES Group?

10 A. Yes.

11 Q. Do you know what the ES stands for?

12 A. It's the name of the company which is Energy Savings,  
13 Inc..

14 Q. Do you understand that's a company that at some point  
15 ULT --

16 A. At some point they were separate.

17 Q. All right. And then at some point ULT acquired them?

18 A. As far as I know, yes. I knew them when they were  
19 separate.

20 Q. All right. Let me now hand you a blue marker,  
21 Dr. Roberts, and ask if you would identify the control means.

22 A. I'd like to see the chart again to fully get the top of  
23 it. Okay. All right.

24 Q. All right. Let me now hand you, Dr. Roberts, a green  
25 pen -- Well, let me ask you more about the control circuit



1 first of all.

2 A. Yes.

3 Q. When you said it's got an IC that uses a microprocessor,  
4 is that microprocessor shown in the schematic?

5 A. Yes. It looks on the schematic just like the other ICs,  
6 it's a rectangle with a number of labeled pins, what we call  
7 pins, terminals on the microprocessor.

8 Q. And instead of reviewing an integrated circuit data sheet,  
9 did you review something else that's associated with that  
10 microprocessor?

11 A. You've got to review two things in this case. You've got  
12 to review the code, you've got to review the microprocessor  
13 data sheet which describes what the pins are and the functions  
14 of the pins and the language of the microprocessor, the  
15 instruction set of the microprocessor, then you have to review  
16 the code. You have to read the instructions in the code and  
17 then understand how they apply -- what the microprocessor  
18 does, when it receives each instruction or when it executes  
19 each instruction.

20 Q. All right. And did you do both of those things, review  
21 the data sheet and the microprocessor code?

22 A. I did.

23 Q. All right. Dr. Roberts, on the parties' Joint Exhibit  
24 list, Exhibit No. 90 refers to all the microprocessor code for  
25 all of the accused products. I'm going to hand you a section

1 of microprocessor code.

2 A. This is identified as the code for the 4800 microprocessor  
3 which is the representative product for this group.

4 Q. And did you review that microprocessor code?

5 A. I reviewed all the routines necessary for shut down and  
6 initiation to satisfy infringement.

7 Q. All right.

8 A. Yes.

9 Q. And let me hand you another document which I'm not yet  
10 going to publish to the jury, but do you recognize the  
11 information contained in that document?

12 A. Yes. This is a summary sheet that I prepared describing  
13 the way the code works in the ES 4800 A.

14 Q. All right. And does that code describe and does your  
15 summary describe how the oscillations are started and stopped?

16 A. Yes. It identifies the routines, it identifies the  
17 particular part of the computer code, it identifies which pins  
18 the computer looks at to measure voltages to make these  
19 determinations. Those pins are exactly the same ones that we  
20 identified as the pins where the control signals enter the  
21 microprocessor, the two different control signals enter the  
22 microprocessor. There's an output pin from the microprocessor  
23 which is used to enable and disable oscillations.

24 Q. Okay.

25 A. Yes. Mr. Skeels, let me point out that this particular

1 circuit uses two integrated circuits in the control circuit.  
2 It it has the microprocessor and it has the second integrated  
3 control circuit which we've include there which is just a  
4 simple driver and what the microprocessor does to initiate and  
5 to disable is to allow the second driver chip to run or stop.  
6 Q. Dr. Roberts, even though the parties have already agreed  
7 that the microprocessor code has been -- all of it  
8 collectively is part of Joint Exhibit 90, I want to hand you,  
9 again, what I've marked as Plaintiff's Exhibit No. 74, which  
10 is just the portion of the microprocessor code that relates to  
11 this product. Have you accurately marked that and described  
12 it?  
13 A. Well, I believe so. Without Bates numbers it's impossible  
14 for me to confirm that this is what you represented to be, but  
15 it appears to be that.  
16 Q. All right. And then -- then I have marked, Dr. Roberts,  
17 as Plaintiff's Exhibit No. 76, does that appear to be the  
18 summary you referred to earlier?  
19 A. Yes, it is.  
20 MR. SKEELS: Your Honor, just so the record's clear,  
21 we would like to offer this excerpt from the microprocessor  
22 code as Plaintiff's Exhibit No. 74 and pursuant to Federal  
23 Rule of Evidence 1006, we would like to offer as Plaintiff's  
24 Exhibit No. 76 Dr. Roberts's summary of that microprocessor  
25 code.

1           **MR. ROUTH:** No objection, Your Honor.

2           **THE COURT:** They will be admitted.

3           (Admitted in Evidence as Plaintiff's Exhibits 74 and 76.

4           **MR. SKEELS:** Your Honor, if I may, I would like to  
5 publish Plaintiff's Exhibit No. 76 to the jury.

6           **THE COURT:** Yes.

7           **BY MR. SKEELS:**

8           Q. All right. Now, Dr. Roberts, with respect to the  
9 requirement C of the control means, did you perform the same  
10 analysis with respect to that requirement that we described  
11 earlier?

12          A. Yes, I did.

13          Q. Did you determine that that -- the control circuit shown  
14 on microprocessor group 1 product, did you determine that it  
15 performed all four of the functions?

16          A. I did.

17          Q. And did you then compare the structure of that control  
18 circuit to the control circuit 58 taught in Mr. Bobel's  
19 patent?

20          A. Yes, I did.

21          Q. Did you make a determination as to whether or not they  
22 were the same or equivalent?

23          A. They are equivalent.

24          Q. And the basis for that opinion was what?

25          A. They perform the same function in substantially the same

1 way with substantially the same result.

2 Q. They do, in fact, this control circuit from the ES Group 1  
3 product does, in fact, start and stop the oscillations?

4 A. Does in fact stop the oscillations when it receives a  
5 control signal from the resonant converter and it does  
6 reinitiate oscillations when it receives the DC control  
7 current that is now flowing through the filaments when they  
8 are replaced.

9 Q. Let me now hand you -- so, did you reach a conclusion as  
10 to whether or not element C is met?

11 A. It is met. That is -- that is my opinion that it is met.

12 Q. Let me now hand you a green pen, Dr. Roberts, and ask you  
13 if you would please identify the direct current blocking  
14 means?

15 A. There are three capacitors, one on each filament, one  
16 associated with each pair of output terminals, and, again, on  
17 this extremely poor diagram, there's one here, there is  
18 associated with the first filament winding, there's one here  
19 associated with the second filament winding, and one down here  
20 associated with the third filament winding. I, unfortunately,  
21 cannot read the capacitor numbers from this chart.

22 Q. All right.

23 A. But they are in my infringement charts.

24 Q. You've identified them there in green?

25 A. Yes.

1 Q. Does that direct term blocking means meet the requirements  
2 of the claim language?

3 A. Yes, it does.

4 Q. Is it coupled to the output terminals in such a way that  
5 it accounts for each set of output terminals?

6 A. Yes. There's one -- there's one capacitor for each pair  
7 of output terminals and they are connected to the output  
8 terminals.

9 Q. The direct current blocking means which I understand is  
10 made you collectively of those three DC blocking capacitors  
11 you identified, is the DC blocking means operable to stop the  
12 flow of the control signal from the DC input terminals  
13 whenever the DC control path is broken?

14 A. Yes. When the control path at the upper pair of terminals  
15 or at the lower pair of terminals is broken, it stops it, yes.

16 Q. Let me move on to claim 2, Dr. Roberts, and ask you if  
17 this meets the requirements of claim 2?

18 A. The resonant capacitor and resonant inductor are connected  
19 together at the intermediate node which is right there.

20 Q. Now, and -- with respect to claim 5, is the direct current  
21 blocking means, does it include at least a point capacitor?

22 A. Yes, it does.

23 Q. It is it connected across at least one heatable filament  
24 of one gas discharge lamp?

25 A. Yes. Both the upper pair of terminals and the lower pair

1 solution, he thought there was some problem with the Crummel  
2 patent, didn't he?

3 A. He identifies those in his patent.

4 Q. But one of the solutions the Crummel patent had already  
5 come to, at least in the Crummel circuit, was the ability to  
6 strike a new lamp after re-lamping without turning the power  
7 line voltage on and off?

8 A. That is what it says in the Bobel patent.

9 Q. And what Mr. Bobel found unsatisfactory about the Crummel  
10 patent, it says after that, is that the circulating current  
11 flows through the lamp filaments and the filament voltages are  
12 proportional to the current and are very high. That -- I  
13 think he actually says he built the Crummel circuit or  
14 suggested he built the Crummel circuit and he thought that the  
15 currents that remain circulating in the ballasts were too high  
16 to his liking.

17 A. Well, he doesn't say that.

18 Q. Okay.

19 A. He says the circulating currents through the filaments are  
20 too high.

21 Q. Okay?

22 A. Okay. That's what it says.

23 Q. You go up to the top of column 2, to lines 5 and 6.

24 A. Okay.

25 Q. One of the things this portion of Mr. Bobel's patent

1 says -- says that it is highly desirable to have a series  
2 resonant ballast for gas discharge lamps which will not draw  
3 power from the power line source whenever lamps are removed or  
4 inoperative. Is that correct?

5 A. It says that. That's correct.

6 Q. Is that something that you view the Bobel '529 patent as  
7 accomplishing?

8 A. The -- it does accomplish that in the preferred embodiment  
9 of the patent.

10 Q. In your report --

11 A. In fact, let me correct that a little bit. It  
12 accomplishes that literally in the '529 if the lamps are  
13 removed or if the filament is defective if the lamps are in  
14 place but not operative. It still draws a very small amount  
15 of power. Not zero. There's a -- you know, it's a rounding  
16 issue in discussion when you buy something and it says zero  
17 grams fat, that doesn't mean it's zero. The FDA allows it to  
18 be zero if it's .4 or .3, they round it down to the nearest  
19 whole gram, so the Bobel patent will draw a very small amount  
20 of power if the filaments are in place, even if it's not  
21 running.

22 Q. Let me ask you to look down at the same column, column 2,  
23 line 41 to 44.

24 A. Yep.

25 Q. There the patent tells us that the ballast will not draw



1 any power from a power line source whenever lamps are removed  
2 or inoperative and will ignite new lamps after re-lamping  
3 without turning the switch on an off. Do you see that?

4 A. I see that wording.

5 Q. Is there anywhere in the Bobel patent that Mr. Bobel tells  
6 the public that, in fact, when lamps are in place but  
7 inoperative, the ballasts will continue to draw some power?

8 A. No, I say that's being used in exactly the way the  
9 government allows people to say zero grams of fat when it's  
10 not exactly zero, that it's so small that it's considered to  
11 be zero, so small it's considered to be none but it's actually  
12 not zero.

13 Q. Have you ever built the ballast of the 529 ballast?

14 A. No, I haven't.

15 Q. Dr. Roberts, in your report from January, you told us what  
16 you viewed the heart of the '529 invention to be, didn't you?

17 A. Yes, I did.

18 Q. And do you recall that or I do want me to direct your  
19 attention to the place in your report --

20 A. I recall in general the particular part. I don't recall  
21 the exact wording I used, so I do want to be referred to it.

22 Q. I think your report is at tab 3. And I think it's at page  
23 23 of your report from January.

24 A. I'm sorry. Which tab again, please, sir?

25 Q. Tab 3.

1 A. Okay. Thank you. Page 28, did you say?

2 Q. No. Page 23.

3 A. Page 23.

4 Q. I think it's the last sentence on that page.

5 A. Yes.

6 Q. Can you read that sentence for the jury, please?

7 A. I said, at the heart of the invention, in my opinion, is  
8 the use of a DC control current to detect lamp removal and  
9 reinsertion so that the ballasts can be restarted without  
10 cycling the power or subjecting the lamp installer to an  
11 electrical shock.

12 Q. And that remains your opinion of what the heart of this  
13 invention is, doesn't it?

14 A. That's true.

15 Q. You're aware of at least one other patent that  
16 accomplished that same past, if you will, prior to the '529  
17 patent or prior to its invention in 1993, aren't you?

18 A. Not for a rapid start circuit in which you heat the  
19 filaments with secondary windings, which is what the '529 is  
20 about.

21 Q. Okay. You're aware of another patent prior to 1993 which  
22 accomplished the same objective that you stated in your report  
23 as being at the heart of the Bobel invention, aren't you?

24 A. That's correct.

25 Q. And that other patent is the Zuchtriegel patent, correct?

1 A. One of -- Yes. There is more than one Zuchtriegel, but  
2 yes. I believe we are talking about the same Zuchtriegel  
3 patent.

4 Q. I'm talking about the Zuchtriegel patent that was  
5 discussed during the prosecution history of the '529 patent.  
6 Is that the one you have in mind?

7 A. Yes.

8 THE COURT: How you do spell that?

9 MR. ROUTH: It's spelled, Your Honor.

10 Z-U-C-H-T-R-I-E-G-E-L.

11 BY MR. ROUTH:

12 Q. And it also is one of the -- I believe one of the patents  
13 listed on the face of the -- the '529 patent.

14 THE COURT: Thank you.

15 MR. ROUTH: It's a 1987 patent.

16 THE COURT: Thank you.

17 BY MR. ROUTH:

18 Q. The Zuchtriegel patent is the patent that during the  
19 prosecution of the '529 patent, the patent examiner initially  
20 found the anticipated claim 1 of the '529 patent, correct?

21 A. Initially.

22 Q. Okay. When you say --

23 A. Yes.

24 Q. You rejected claim 1. He said it's anticipated by  
25 Zuchtriegel?

1 A. That's --

2 Q. And then after that, Mr. Bobel amended the language of  
3 claim 1 and he offered an explanation for why he thought  
4 Zuchtriegel did not anticipate, did not fully disclose  
5 everything that Mr. Bobel's patent did, didn't he?

6 A. That's correct.

7 Q. And part of Mr. Bobel's explanation or it's actually the  
8 lawyer signed the paper, so his lawyer's explanation was that  
9 the unique nature of the control circuit and DC blocking means  
10 in the '529 patent made it different than Zuchtriegel?

11 A. I believe he used the combination of the control circuit  
12 in the DC blocking means, his language, had the word  
13 combination in it of those two made it unique, yes. And the  
14 patent office agreed with him.

15 Q. The patent office issued the patent.

16 A. Yes.

17 Q. We don't know if they agreed with that explanation or they  
18 liked the changes he made in claim 1. They don't tell us  
19 that. They just tell us we'll take claim 1 as it's amended.

20 A. Sometimes they do tell us. In this case they didn't.

21 Q. So, we've got the combination of this precise control  
22 means and DC blocking means combined is what makes the Bobel  
23 patent unique over Zuchtriegel? Do you agree with me on that?

24 A. Well, you threw the word precise in there and I don't  
25 think that was in any of the discussion with the patent

1 not a one shot initiation mechanism?

2 A. That's not what I said. You said that the diac is a one  
3 shot -- I'm just trying to be very careful with my terms.

4 Q. Okay.

5 A. A one shot is a very specific kind of circuit in  
6 electrical engineering. When using it in the term of a single  
7 starting pulse, if we agree that by one shot we mean a single  
8 starting pulse, you know, a starting post that occurs once and  
9 then until that capacitor charges up, it's not going to occur  
10 again, it is a single starting pulse. In that sense we call  
11 it a one shot. But a one shot has other specific meaning in  
12 electrical engineering, it's a specific kind of logic circuit,  
13 okay? Designed to produce a single pulse in response to an  
14 event.

15 Q. I understand. We'll come back to that in a few minutes.

16 A. Okay.

17 Q. Let me ask you now -- I'm going to ask the green second  
18 series current path be highlighted. Okay? Is this now an  
19 accurate coloring in of what the second series current path as  
20 described in column 3 and 4 of the patent, is that what that  
21 is?

22 A. It describes the describes the components listed in the  
23 patent for the second current path but it's not the complete  
24 second current path.

25 Q. What would you need to show the complete second current

1 path?

2 A. You in need to include part of the first.

3 Q. You come back -- tell us how the second series current  
4 path how it operates.

5 A. Let me begin by using the components identified in the  
6 patent marked in green.

7 Q. Okay.

8 A. Then we can show where else the current flows.

9 Q. Thank you.

10 A. The current flows into node CTa at the top. The same  
11 place --

12 Q. Through this.

13 A. Right. It then goes through diode 34, the middle diode.  
14 Through resistor 35.

15 Q. Right.

16 A. And then charges capacitor 38 with some of the current  
17 being diverted into 37.

18 Q. Which is a resistor, right?

19 A. Which is a resistor, 37.

20 Q. Okay.

21 A. When the voltage on 38 is high enough to turn on  
22 transistor 43, then that transistor turns on and diverts the  
23 current coming down from resistor 40 and diode 39 so the  
24 capacitor C 42 doesn't charge.

25 Q. So the second series current path does it -- essentially

1 makes sure the charge on 42 doesn't trigger diac 44 a second  
2 or third or a fourth time?

3 A. Yes. The entire purpose of that circuit is to get a  
4 single starting pulse for the ballast per event, you know, per  
5 putting the lamps in. You want one starting pulse and then  
6 disable starting pulses until the lamps are taken out and put  
7 back in again.

8 Q. And in the '529 patent, these two series current paths  
9 together effectively initiate the oscillation of the ballasts  
10 or the -- isn't that correct?

11 A. Yes. Yes.

12 Q. Now, let's go to the third series current path which I  
13 think is in orange. Is this one correctly drawn?

14 A. For the most part, yes. The collector -- it's not clear  
15 whether the collector 52 is part of this. But whether the  
16 collector current -- but it's -- but it includes -- includes  
17 device 52, so and all three are drawn. That's fine for now.

18 Q. So, the blue and green, first and second series paths,  
19 they effectively initiate the oscillations. What does the  
20 third orange series current path do?

21 A. That particular path doesn't sense the DC control current.  
22 It senses the voltage at the intermediate node.

23 Q. If there's a high voltage at 27, the intermediate node,  
24 what happens?

25 A. This is the signal -- back up on that. That is what's

1 called inside frame 1 the signal from the resonant converter:  
2 When there are no lamps on, as we discussed yesterday, the  
3 intermediate node voltage can rase rather high. So, if the  
4 lamps burn out, the intermediate mode voltage goes high, that  
5 voltage then flows through or the current that is related to  
6 that high voltage flows through diode 29 and resistor 30 and  
7 charges capacitor 33 with some of the current being diverted  
8 to 32, to resistor 32, and those all are there to adjust the  
9 values at which these things happen in the time which it  
10 happens -- for example, you know what, shut down a circuit to  
11 operate immediately, you want to give the lamps time to start  
12 but not so much time that the ballasts are going to be damaged  
13 if they don't start. You adjust all that together. Once that  
14 reaches the break down voltage of diac 45 --

15 Q. One second. Let me see if I can help here. This is diac  
16 45 here?

17 A. Diac 45 is in the series of the lower switch, right.

18 Q. Okay. This capacitor charges up, reaching the break down  
19 point --

20 A. It's in series with the transistor 48, right.

21 Q. By it's --

22 A. And --

23 Q. Capacitor 33 which charges up, reaches the break down  
24 voltage of the diac 45?

25 A. Yes. Capacitor 33 charges up, reaches the break down



1 voltage of diac 45. It then turns on transistor 48.

2 Q. Which is here.

3 A. Which is connected to the base of the lower switch.

4 Q. Okay.

5 A. The control electrode to the lower switch and when that  
6 transistor 48 turns on, it diverts the current flowing into  
7 the lower switch and effectively turns off the oscillations.

8 Q. It takes the power out of the resonant converter and --

9 A. No, it doesn't take the power out of the resonant  
10 converter.

11 Q. You tell us what it does.

12 A. It stops the resonant -- this entire thing, this is a  
13 self-oscillating converter, it's like your car, it runs as  
14 long as you let it -- you start it with a starting motor and  
15 unless something stops it, it continues going. Well, this  
16 stops it. What it does is for a short period of time really  
17 prevents the lower switch from opening -- from -- it prevents  
18 the lower switch from actually turning on by diverting the  
19 current away from the lower switch.

20 Q. This is the lower switch you are talking about?

21 A. Right. That's the lower switch of the resonant converter.

22 Q. What this does is it diverts the current away from it?

23 A. It takes the current from the control electrode, the lower  
24 switch, which is called the base, and it diverts to ground so  
25 that current coming from the drive transformer can't get into

1 the lower switch, it goes through that new transistor 48  
2 instead and the lower switch doesn't turn on and the  
3 oscillating converter stops. So it stops the oscillations.

4 Q. Now, have we completed the discussion of what those  
5 columns 3 and 4 tell us in figure 1, the picture, tell us  
6 about how claim 1's control means operate?

7 A. I believe so.

8 Q. And it operates with effect to initiate oscillation and  
9 then stop oscillations in response to signals from the DC  
10 terminals and stopping from the intermediate node, correct?

11 A. Yes.

12 Q. It's a pretty clever little device, isn't it?

13 A. It is.

14 Q. Now, when I asked you at your deposition -- Let me just  
15 ask it again. Does the structure of figure 1 depict a one  
16 shot start and one shot shut off mechanism?

17 A. It depicts a single pulse start which we can call -- which  
18 the inventor calls a one shot, right? But it's different than  
19 the -- than the currently accepted electrical engineering term  
20 for one shot. But it does depict a single one time starting  
21 event, yes.

22 Q. Let me ask you to look back at your deposition, which is  
23 tab 1.

24 A. Okay.

25 Q. We'll look this time at lines 209 to -- Excuse me. Page

1 209, lines 8 to 10.

2 A. Excuse me. 209?

3 Q. 209.

4 A. Okay.

5 (Video starts.)

6 **MR. ROUTH:** Let me do this. I apologize.

7 **BY MR. ROUTH:**

8 Q. I'm going to put it up here on the Elmo, that can get  
9 switched over. Why don't I just read it to you. I think that  
10 may be the old-fashioned way.

11 A. The old-fashioned way.

12 Q. At your deposition in February --

13 **MR. SKEELS:** Your Honor, the video came up. For the  
14 future, may I renew my objection on the record to the use of  
15 videotape testimony and get a running objection to that  
16 effect?

17 **THE WITNESS:** I'm sorry. Where are you exactly?

18 **BY MR. ROUTH:**

19 Q. I'm on 209 at line 8.

20 A. Thank you.

21 Q. My question to you at your deposition, Dr. Roberts, was:  
22 Does the structure of figure 1 depict a one shot start and one  
23 start shut off mechanism? And your answer was yes it does.

24 A. Well, I'm not disagreeing with that in the terms that  
25 Mr. Bobel uses. I'm simply clarifying it to separate it from

1 what electrical engineers normally call a one shot circuit. I  
2 think I've made that clear.

3 Q. At your deposition when I asked you that question, your  
4 answer was, yes, it does, wasn't it?

5 A. That's correct.

6 Q. And you would say the same thing about the description of  
7 the control means at columns 3 and 4, they also depict a one  
8 shot initiation and one shot shut down mechanism?

9 A. If that's the language Mr. Bobel uses, he's allowed to be  
10 his own lexicographer, even if these terms differ from their  
11 normal meaning. If he has done that, then that's the language  
12 he's allowed to use, yes.

13 Q. Dr. Roberts, I don't mean to quibble with you, but when I  
14 asked you that question at your deposition, just straight out,  
15 without talking about Mr. Roberts -- Excuse me -- about  
16 Mr. Bobel or what he meant, I asked you if that figure shows a  
17 one shot initiation, a one shot shut down mechanism, your  
18 answer was yes it does.

19 A. As exactly -- and that's true. And that's what Mr. Bobel  
20 describes it to be.

21 Q. ULT's products do not use a one shot trigger for starting  
22 or stopping oscillation, do they?

23 A. Yes, they do. It's explained exactly that way in your own  
24 patent for the circuit that corresponds exactly to CFL Groups  
25 1 and 2. I can show you the exact reference. I have it in

1 front of me.

2 Q. I'm going to move -- we'll come back to that. You will  
3 agree with me that none of the ULT products have the same  
4 structure as the control means of the '529 patent?

5 A. I've already testified they do not have the identical  
6 structure of the control means, yes.

7 Q. I think we talked about this at your deposition, so to try  
8 to move things along, you will also agree with me that the ULT  
9 products do not have a second series current path like the one  
10 shown in the '529 patent?

11 A. That's correct. But since my deposition I have studied  
12 the 652 more -- your 652 patent and I now see how you describe  
13 exactly the components used that perform exactly the same  
14 function as the second current path. It's described in detail  
15 in your own patent.

16 Q. Let me ask you this, Dr. Roberts, because my question is  
17 not one of the ULT patents. It's really about what you told  
18 me at your deposition.

19 A. I agree at my deposition. At my deposition I did say that  
20 they do not include a second series current path. But the  
21 function is indeed in -- in the 652 -- I'm sorry, in your  
22 products.

23 Q. The function is there but there is no second series  
24 current path or even equivalent to that in any of the  
25 products. That's what you told me at your deposition. Isn't

1 that true?

2 A. There isn't a second series current path. There's no  
3 equivalent current path, correct.

4 Q. Thank you. If we could bring up figure 1 again and just  
5 put up the green line. Just the green line, please. Just so  
6 we're clear, what you're saying now and said at your  
7 deposition is there's nothing in the ULT products that is the  
8 same as or equivalent to this second series current, correct?

9 A. There is no equivalent current path. There is circuitry  
10 that provides the equivalent function and I believe I said  
11 that in my deposition only I hadn't located it as precisely as  
12 I've now located it.

13 **THE COURT:** Okay. So, why don't we go ahead and  
14 take our morning break now and we will be back in fifteen  
15 minutes which would be a little after eleven o'clock.

16 **MR. ROUTH:** Thank you, Your Honor.

17 (Recess.)  
18  
19  
20  
21  
22  
23  
24  
25

**Trial Transcript, Volume B, Dated June 14, 2011**

1 that the claim covers. It is not a limiting issue. I didn't  
2 say based on that that Claim 1 was limited to only driven  
3 circuits. I said based on this language it could be applied  
4 broadly. But you are asking me to do exactly the opposite  
5 now--to take a portion of the specification that the Court has  
6 not construed limits Claim 1 and to myself use that to limit  
7 the application of Claim 1, and I don't think that is proper.

8 Q. (BY MR. ROUTH) Doctor Roberts --

9 A. It is not a proper analysis for me to do.

10 Q. Doctor Roberts, My question didn't ask you to limit Claim  
11 1.

12 A. You asked me to use it if same way that I used  
13 information in Column 11, and I am saying no. In one case I  
14 used it in a broadening way. In case it would be used in a  
15 limiting way, and those are different ways. I would not use  
16 anything in the specification to limit a claim unless the  
17 Court has construed that that part of the specification does  
18 indeed limit the claim.

19 Q. Doctor Roberts, is it your analysis as you applied it in  
20 this case that you can look to the specification anywhere you  
21 want to broaden claims, but you should only look to certain  
22 portions to limit claims?

23 A. I looked at the specification to inform me about the  
24 claims, but they don't limit the claims in a legal sense  
25 unless the Court construes that they do.



1 Q. Doctor Roberts, in your testimony on direct you said in  
2 considering the issue of equivalence, you considered whether  
3 ULT's products operated in the same way as the patent provides  
4 or Claim 1 of the patent provides. Is that correct?

5 A. Whether they perform the functions described in the  
6 proper element of the claim.

7 Q. They have to perform the functions. If they don't  
8 perform the recited function precisely, they don't infringe.  
9 Is that correct?

10 A. That is part of my infringement analysis, yes.

11 Q. In addition to performing the function, they have to have  
12 equivalent structure. And I understood you to say that part  
13 of your equivalent structure analysis was to say that they  
14 performed the function of Claim 1 in a manner that was  
15 equivalent or a way that was equivalent. Is that right?

16 A. Yes. They perform the function of that element of  
17 Claim 1 that we were talking about in a manner which is  
18 equivalent.

19 Q. And which is to say, I think you used the word way.

20 A. Equivalent way.

21 Q. An equivalent way.

22 A. Yes.

23 Q. Column 7 and 8 of the patent --

24 A. I believe the language is substantially the same way and  
25 they produce substantially the same result is the more legal

1 term here.

2 Q. Thank you. And Column 7 and 8 tell us the way in which  
3 the ballast of the '529 Patent operates, do they not?

4 A. They tell us the way the preferred embodiment operates.  
5 They do not limit Claim 1 unless the Court has construed that  
6 that part of the specification is a limitation on Claim 1.

7 Q. Don't they tell us the way in which the first, second,  
8 and third series paths operate in the control means of  
9 Claim 1?

10 A. They do tell us if we have a literal -- If we have a  
11 control circuit which is identical to the control circuit  
12 rather than one that is equivalent to the control circuit,  
13 then they would operate in those ways. But if it is  
14 equivalent, the functions it needs to perform are the  
15 functions defined in the claim, not the specification. And  
16 those four functions we have talked about a number of  
17 times--receiving the two control signals, one and two, and  
18 then initiating and shutting down. And those are the  
19 functions that needs to perform, not the functions described  
20 in the specification, as I understand patent law. I am not a  
21 lawyer.

22 Q. And my question doesn't go to the functions because I  
23 don't know that the functions are actually -- well, they are  
24 mentioned in these columns, but the way the functions are to  
25 be achieved. This discussion in Column 7 and 8 provides for a

1 discussion of the way in which the ballast using the first,  
2 second, and third series currents, the way in which it  
3 accomplishes the function of the control means, does it not?

4 A. Only if you have an identical control circuit rather than  
5 an equivalent control circuit.

6 Q. The way in which Mode C of the patent at Column 8, the  
7 way in which it accomplishes the restarting of the ballast as  
8 set forth there, is it not?

9 A. Yes, it is, but let me take a look at it again. Yes.

10 Q. What is the way in which Mode C tells us the ballast will  
11 start on relamping?

12 A. It refers back to Mode A, which in the preferred  
13 embodiment start -- I am sorry. Refers back to Mode A for  
14 discussion of the way it operates.

15 Q. But basically says that the way you start the ballast  
16 when you turn the light switch on is the same way the ballast  
17 will start when you relamp. Correct?

18 A. That is essentially what it says, yes.

19 Q. And are you aware that in the Court's claim construction  
20 order it discussed Mode A, B, and C as the way the '529  
21 ballast functions?

22 A. It discussed Mode A, B, and C in a general description of  
23 the '529 Patent. It uses words like this is the way the '529  
24 operates. It did not discuss it as part of the means plus  
25 function analysis of the control circuit, to the best of my

1 knowledge.

2 Q. In ULT's products, the Mode A and Mode C methods for  
3 starting up oscillations are different, are they not?

4 A. In most of the products, yes.

5 Q. So ULT's products use a different control signal and a  
6 different method to start the ballast when you turn the light  
7 switch on than when you relamp the ballast. Correct?

8 A. Most of the products that I have analyzed don't need a  
9 control circuit as defined in the '529 to initiate  
10 oscillations upon power-up. They only use the control  
11 circuit--I am talking about most, not all. They only use the  
12 control circuit as defined in the '529 the DC control current  
13 as defined in the '529 for restart after shutdown when the  
14 lamps have been removed and replaced. Some of your products  
15 do indeed require the lamps to be in on initial power up to  
16 start-up.

17 Q. Do those products use the same DC current path for  
18 start-up?

19 A. Yes.

20 Q. But most of the products, you would agree, as you say  
21 they don't have a DC current that goes through the filaments  
22 on the start-up of the lamp, do they?

23 A. No, they don't.

24 Q. That is a difference between the way --

25 A. I am sorry. I need to answer that -- They do have a DC

1 control current, but they start up -- they will start up  
2 either in the presence or in the absence of that DC control  
3 current that flows through the lamps, yes.

4 Q. And that is different from the way the '529 Patent  
5 describes its operation in terms of how it will start up on  
6 relamping versus on power-up. Is that correct?

7 A. For the preferred embodiment, yes.

8 Q. Now, there are a number of places in the '529 Patent  
9 where the patent says that it will not oscillate or draw power  
10 once the ballast is shut down. Is that right?

11 A. In this specification, that is correct.

12 Q. Does that in the abstract? Is that correct?

13 A. Most likely.

14 Q. Does it -- Do you want to look? That may be helpful. In  
15 the abstract, the abstract says that the ballast will not  
16 oscillate and will not draw any power from the DC input  
17 terminals whenever the gas discharge lamp is removed from the  
18 output terminals, is defective, or is inoperative?

19 A. It says that, yes.

20 Q. It also says that in two different places in Column 2  
21 does it not?

22 A. I believe it does, even though I don't have the exacts  
23 places. I have no problem agreeing that it does.

24 Q. If you look at Column 2, lines 5 to 6, and then if you  
25 look at Column 2, line 41 to 44.

1 A. Yes.

2 Q. Those are both places where the patent tells us that the  
3 ballast that is being described will not draw power and will  
4 not oscillate upon shutdown. Correct?

5 A. Correct.

6 Q. And finally, there is a same statement or a similar  
7 statement in Column 11, isn't there?

8 A. Most likely.

9 Q. Just check me on it. Look at Column 11.

10 A. Which line number?

11 Q. Line number 20 to 24.

12 A. I see it in line 21, sure. Yes, I do.

13 Q. I understand from your deposition testimony that you  
14 think one of those features is a limitation on Claim 1 but the  
15 other is not. Is that correct?

16 A. One of them is listed in Claim 1 and the other one is  
17 not, and that is why I based my opinion on not just what I  
18 think.

19 Q. Your view is that it is a limitation on Claim 1 that  
20 there will be no oscillations in the ballast once it is shut  
21 down.

22 A. Because it says that.

23 Q. And so if there is a product that upon shutdown continues  
24 to oscillate or renews oscillations on its own, you would  
25 agree it is different from your view of what Claim 1 provides

1 A. Used in ballasts today?

2 Q. ST Micro?

3 A. ST Micro is one. NXP would be another one, which is a  
4 Phillips subsidiary that makes the IC used in your circuits.  
5 I am sorry. One of your ballasts in the Group 4 that we  
6 discussed today.

7 Q. And there is a company called IR that makes ballast  
8 circuitry --

9 A. IR made a lot of integrated circuits over time and use an  
10 IR driver IC in connection with a microprocessor in one of  
11 your products; in some of your products.

12 Q. Do you know when one the first time any one of those  
13 companies commercially sold ICs for use in ballasts?

14 A. No, I don't know exactly what that date is. I am sorry.  
15 Would you ask the question? Did you say for use in ballasts?

16 Q. No.

17 A. Any IC can be used in a ballast.

18 Q. Do you know when the first time any of those companies  
19 sold an IC that was application specific for use in a ballast?

20 A. Application specific integrated circuit, also known as an  
21 ASIC, designed for ballast control?

22 Q. Yes.

23 A. No, I do not know the exact date.

24 Q. Do you have an understanding of approximately --

25 A. Well, from listening to your discussion yesterday, I am

1 assuming it was in the 1990s.

2 Q. In the late 1990s. Isn't that right?

3 A. That may be true. I mean, I really don't have knowledge  
4 of that date because I was --

5 THE COURT: Look. If you know, you know and answer  
6 it.

7 THE WITNESS: No, I do not know what date it is.

8 THE COURT: And please don't talk over me, and  
9 please don't talk over him. If you know, you know, and so we  
10 expect you to answer it. But if you don't know and you just  
11 heard him say it, you still don't know because you just heard  
12 him say it so, say you don't know. It is okay.

13 THE WITNESS: Thank you, Your Honor. I am sorry.  
14 Okay.

15 Q. (BY MR. ROUTH) Doctor Roberts, you understand the  
16 ballast of the '529 Patent to be a rapid start ballast. Is  
17 that correct?

18 A. I do.

19 Q. ULT's products all use something called program start, do  
20 they not?

21 A. That is not correct. ULT calls it programmed rapid  
22 start, and I have one of your products right here with that  
23 name on the label.

24 Q. Program start is different than a rapid start ballast, is  
25 it not, sir?



1 A. No. Program start is a subset of rapid start. It is a  
2 variation of rapid start, and it is recognized as such in the  
3 lighting industry and in lighting standards.

4 Q. Are you aware of any Department of Energy standards that  
5 discuss the difference between program start and rapid start  
6 ballasts?

7 A. I am not aware of any.

8 Q. ULT ballasts do not use DIACs to either initiate or stop  
9 oscillations, do they?

10 A. ULT ballasts use Zener diodes which your patents on those  
11 ballasts describe as equivalent to DIACs in just that  
12 language.

13 Q. Sir, my question was ULT ballasts do not use DIACs to  
14 initiate or stop oscillations, do they?

15 A. I have not seen one that uses a DIAC.

16 Q. They use integrated circuits and the functionality of the  
17 integrated circuit to initiate and to stop the oscillations,  
18 do they not?

19 A. They use the integrated circuit only in combination with  
20 a Zener diode in order to stop the oscillations.

21 Q. An integrated circuit provides for far more precise  
22 control of the voltage levels at which initiation or stopping  
23 of oscillations will occur, doesn't it?

24 A. In your products it is the Zener diode that provides the  
25 voltage threshold detection for stopping, not the integrated

1 circuit.

2 Q. That is your understanding of the ULT products, that is  
3 integrated circuit is not programmed with a value for the  
4 variance in voltage to initiate or stop. You are saying it is  
5 a Zener diode. Is that your testimony?

6 A. As described in the '652, some of your products use the  
7 Zener diode described -- I am sorry. Described in the '652  
8 Patent, which is the same diagram as in CFL-1 and 2, the Zener  
9 diode is used as a threshold detector for shutdown, not the  
10 integrated circuit.

11 Q. Now, you just referred to a ULT patent.

12 A. I did.

13 Q. I am asking about products and what is actually made and  
14 done.

15 A. The diagram in the '652 is exactly the same as a diagram  
16 you gave us for CFL-1 and 2 down to the labels on the  
17 components; diode 21, diode 22. It is exactly the same  
18 circuit. That is why I say it describes these products. I am  
19 not making a leap of faith here.

20 Q. Doctor Roberts, let me ask you about products. Let's  
21 take the First, Second, and Fourth Linear Product Group. Are  
22 oscillations initiated and stopped by an IC -- signaled to an  
23 IC in the operation of the IC?

24 A. They are stopped by a voltage across a Zener diode in  
25 those circuits also, and it is only when the threshold voltage

1 of the Zener diode is exceeded do they shut down. They do  
2 restart based on voltage on the IC, not -- and so there is no  
3 Zener diode in the restart circuit, there is in the shutdown  
4 circuit.

5 Q. A Zener diode is going to have much better control than a  
6 DIAC, is it not?

7 A. I have no information to substantiate that one way or the  
8 other. I believe they are very equivalent.

9 Q. Doesn't the ULT patent you just referred to that  
10 discusses a Zener diode discuss the replacement of DIACs  
11 because the Zener diode provides much better control?

12 A. I don't remember seeing that. I do remember a phrase  
13 that says they are equivalent, and you can substitute other  
14 devices including simple transistors for the Zener diode.

15 Q. There is no reference anywhere in the '529 Patent of an  
16 integrated circuit, is there?

17 A. There is a notation on one of the figures to a block with  
18 pin numbers which could be taken to be an integrated circuit,  
19 but I am not sure it does indeed mean that, but it could mean  
20 that.

21 Q. There is no reference in the '529 Patent to an integrated  
22 circuit, is there, Doctor Roberts?

23 A. You mean in the specification?

24 Q. Yes.

25 A. Outside the figures? No.

1 Q. And nothing in the figures says integrated circuit  
2 either, does it?

3 A. Nothing says integrated circuit, but a box with numbers  
4 on pins could be that.

5 Q. Could be or could not be; you are not sure.

6 A. It could be or could not be. That is exactly what I said  
7 the first time. May be, but I am not sure.

8 Q. I am going to switch gears a little bit. I want to ask  
9 you about your understanding of the claim limitation output  
10 terminals connected to the filaments of the gas discharge  
11 lamp.

12 A. Yes.

13 Q. Now, when you drew your figures over here you drew lamps  
14 on all of the schematics, did you not?

15 A. Yes, I did.

16 Q. That allowed you to actually show a connection between  
17 the output terminals that are on the schematic and some  
18 filaments of a lamp. Is that not right?

19 A. Yes. I needed that to show where the DC control current  
20 flowed.

21 Q. Those lamps, though, were not on the schematic. Is that  
22 correct?

23 A. That is correct.

24 Q. And lamps are not attached to any ballast as ULT makes  
25 them or sells them. Isn't that right?

1 A. That is correct.

2 Q. You talked a little bit about testing of ULT products  
3 both yesterday and today, and I think you testified that in  
4 order to test a product you would actually have to connect the  
5 output terminals of the ballast to a lamp fixture and to the  
6 filaments of the lamp. Is that right?

7 A. Yes.

8 Q. So you will agree with me that if you test the lamp, to  
9 test it you connect the output terminals to the lamp  
10 filaments. Correct?

11 A. Yes.

12 Q. Now, in terms of the testing you talked about, you don't  
13 know who does that testing. You said you assumed it was ULT,  
14 but I think you said today it could be somebody else.

15 A. I said you could subcontract it to somebody out, you  
16 know, somebody else. I can't be sure you do it in-house.

17 Q. You also don't know when it was done, do you?

18 A. No, but it must -- No, I don't know when it was done.

19 That is correct.

20 Q. So for the ESI products, for instance, it could have been  
21 done when ESI was a separate company and they tested their  
22 products and we got the values we needed, and there they are  
23 reported. Isn't that correct?

24 A. As long as the products haven't been changed since then.

25 Q. Okay. And you don't know where the testing is done?

1 A. That is correct.

2 Q. Could be done anywhere in the world, couldn't it?

3 A. It could be.

4 Q. And you don't know how many products are tested. You  
5 don't know if they test -- They wouldn't test one or two, but  
6 they certainly wouldn't test 20 million to get the values that  
7 they have there. They need to report the numbers so people  
8 will buy the products. Is that right?

9 A. They need to report the numbers to satisfy industry  
10 regulations and so people will buy the products, yes.

11 Q. So you test some number, I don't know if it is 50, but  
12 you test some number, you get your values, and then you are  
13 done.

14 A. Correct.

15 Q. And you are not doing testing on 20 million products.

16 A. No, but I assume you do quality control testing on a  
17 sampling basis continuously to make sure your products work if  
18 you are a reputable company, which you are.

19 Q. That is not the kind of testing you testified about  
20 yesterday or earlier today, is it?

21 A. No, but any testing would imply putting a lamp onto a  
22 ballast.

23 Q. Any quality control testing, you don't know who does it  
24 or where you, do you?

25 A. You are right. I don't.

1 filaments.

2 A. I don't think I said that. In this section we are  
3 defining what the terminals are. The second sentence clearly  
4 is there to describe what an output terminal is in  
5 satisfaction of this claim. Okay? It is a discussion of  
6 output terminals in terms of the lamps connected so that the  
7 device can output something. Without that connection it can't  
8 output anything. So to output something it needs to be  
9 connected.

10 Q. Let me see if I can understand. I am going to walk over  
11 and use one of these devices. This is a lamp fixture. Is  
12 that right?

13 A. That is lamp fixture with one of your ballasts installed.

14 Q. It has a ballast in here?

15 A. Yep.

16 Q. It has got the yellow leads running up to the lamp  
17 fixture connecting to the lamp folder here?

18 A. Yes, the lamp sockets, yes.

19 Q. And it has got the red and blue leads running back to  
20 these. Right?

21 A. Yes, I believe so. I can't see them. It does, yes.

22 Q. And so this ballast, if it were plugged into the wall, it  
23 could get AC and feed either AC or DC to the filaments on both  
24 sides of this. Right?

25 A. It can feed AC to the filaments and output AC to the

1 lamps, yes, and run the lamps.

2 Q. So you would say the ballast in this fixture is  
3 connected, as you were discussing in your report, because it  
4 can output AC/DC to the filaments?

5 A. Yes, it can.

6 Q. Now, if I took the ballast out, pulled the wires off,  
7 held it over here, the ballast would no longer be connected in  
8 that way to the filaments of the lamp, would it?

9 A. That is true.

10 Q. The language of the '529 Patent requires that the  
11 ballasts have output terminals that are connected to--this is  
12 Claim 1--that are connected to the filaments of the gas  
13 discharge lamp, doesn't it?

14 A. That is the literal wording of the claim, but neither  
15 your experts nor I have interpreted that way through the  
16 process.

17 Q. Let me ask you, is there somewhere in your  
18 report--because I just pointed to the only place I could find  
19 you discussing this, and I don't think it says for connection  
20 there--is there any place in your report where you say output  
21 terminals connected to does not mean connected to; it means  
22 something different?

23 A. That has never been an issue in neither your expert's or  
24 that I have addressed that.

25 Q. You are repeating what you said.



1 MR. SKEELS: Objection, Your Honor. I would like  
2 the witness to be able to finish his answer if he is going to  
3 be asked a question.

4 THE COURT: Are you finished with your answer?

5 THE WITNESS: Yes, I am, Your Honor.

6 Q. (BY MR. ROUTH) My question is, did you ever say anything  
7 to indicate that you didn't read output terminals connected to  
8 the filaments of the gas discharge lamp according to its  
9 literal meaning?

10 A. No, I never said anything about that.

11 Q. Did Mr. Burke or any expert -- Let's start with  
12 Mr. Burke. Did Mr. Burke ever say anything that said he read  
13 output terminals connected to the filaments of the gas  
14 discharge lamp to mean anything other than the literal  
15 meaning?

16 A. Yes. His infringement analysis never said, as was  
17 discussed in opening, his infringement analysis never said,  
18 "Hey, we don't infringe because we are not connected." He  
19 preceded with an infringement analysis -- non-infringement  
20 analysis in opposition to my report, gave a lot of reasons why  
21 I was wrong, and he never once said I was wrong because, "Hey,  
22 we don't sell ballasts connected to lamps."

23 Q. You actually did get around to accurately saying the  
24 nature of Mr. Burke's report. He responded to your report,  
25 sir, did he not?

1 A. He did.

2 Q. Your report said nothing about the output terminals  
3 limitation being anything other than the literal meaning, did  
4 it?

5 THE COURT: Hasn't he already answered that?

6 MR. ROUTH: I think he did.

7 THE COURT: Then ask your next question.

8 Q. (BY MR. ROUTH) There was nothing for Mr. Burke to  
9 respond to in your report to disagree with in your report  
10 about output terminals literally being connected to the  
11 filaments of the gas discharge lamp, was there, sir?

12 A. Mr. Burke disagreed with other things I didn't mention.  
13 I never mentioned power draw and Mr. Burke decided to bring up  
14 power draw as one of the reasons why he thought you did not  
15 infringe, and that was not in my report. I didn't address  
16 power draw as an infringement issue, so he was free to bring  
17 this up also.

18 Q. Under your interpretation of the output terminals  
19 limitation now --

20 A. Yes.

21 Q. -- what you are saying now is output terminals connected  
22 to the filaments of a gas discharge lamp doesn't mean they  
23 actually have to be connected. You now say that they are  
24 connected even when they are unconnected. Isn't that right?

25 A. First of all, now is not any different than it was

1 individual capacitors and the DC blocking means as a whole, I  
2 believe, yes.

3 Q. So in January in your report you thought one thing. You  
4 changed your mind at some point, and Friday you just got  
5 confused and said the same thing you had said in January  
6 again. Is that what you are saying?

7 A. I think changing my mind is a little bit incomplete in  
8 the sense that the Court has continued to evolve the claim  
9 construction argument over time, and I am responding -- and  
10 some of my changes are in response to the Court's additional  
11 claim construction.

12 Q. Your testimony is that what you said in January in your  
13 report you believed then.

14 A. Yes.

15 Q. And now you don't believe it. Is that correct?

16 A. It has changed since then.

17 THE COURT: Hold on. I mean, you know that I have  
18 added additional claim construction through different  
19 -- through later orders, so you need to present that and take  
20 that into account. I mean, if I have provided additional  
21 instruction or construction post the report, you need to lay  
22 that fact out in your question.

23 MR. ROUTH: I understand the Court said a number of  
24 things since January. I don't understand it to have changed  
25 the claim construction or to issue a new claim construction on

1 this, but --

2 THE COURT: Well, haven't I further defined  
3 -- Haven't I provided further claim construction in later  
4 orders?

5 MR. ROUTH: The Court has discussed the issue in  
6 later orders. It has not been clear to us what the Court  
7 meant.

8 THE COURT: Well, I will pull the order out and read  
9 it for myself over lunch, but my memory, just sitting here, is  
10 that I say something like "further construction is needed for  
11 further terms," and I discussed that.

12 MR. ROUTH: And as the Court knows, we asked for  
13 clarification, and we will leave that where it is. I  
14 understand.

15 Q. (BY MR. ROUTH) In any event, you are now saying that the  
16 testimony you gave last Friday on this point, while consistent  
17 with your January report, was in error. Is that correct?

18 A. I am not agreeing it is fully consistent with my January  
19 report, but I am agreeing it was an error.

20 Q. I am going to ask for some help, because what I would  
21 like to do is get back a couple of the documents that you have  
22 used and drawn on. I wanted to get the schematic that you  
23 have drawn on for the Linear 1 products. I know they have all  
24 been set over here.

25 Doctor Roberts, I understood you to say that these were

1 the three DC blocking capacitors in this particular device.

2 A. That is correct.

3 Q. Is this DC blocking capacitor able to stop the DC control  
4 signal when the lamp is removed or is defective?

5 A. No, there is no DC control current flowing through the  
6 upper terminals.

7 Q. So this DC blocking capacitor doesn't fulfill the  
8 function of the DC blocking means. Is that correct?

9 A. It doesn't stop the DC control current in this particular  
10 circuit, yes.

11 MR. SKEELS: Your Honor, may we get a running  
12 objection to this line of questioning to the extent it seems  
13 to be going into a settled legal issue with respect to the  
14 Court's claim construction, when the Court has already  
15 established that it refers to the DC blocking means and  
16 whether or not it is capable of stopping the flow of the  
17 control signal when the DC control path is broken, and now the  
18 questions relate to whether or not certain individual  
19 capacitors do, in fact, stop the control signal.

20 THE COURT: Okay. Overruled.

21 Q. (BY MR. ROUTH) Doctor Roberts, on the Linear Group 2  
22 products you have circled three DC blocking capacitors again.  
23 Does the top one here, is it able to perform the function of  
24 the DC blocking means?

25 A. I am sorry. Able to?

1 Q. Is it operable to.

2 A. It is operable to.

3 Q. Is there a DC control signal going through the lamp that  
4 it has -- between which it sits on the output terminals?

5 A. No, not in that circuit.

6 Q. So is it operable to in this circuit perform the function  
7 of the DC blocking means?

8 A. My understanding of the word operable is that it does not  
9 have to be actually used in that particular circuit. It is  
10 operable to if you choose to run a DC control circuit through  
11 it.

12 Q. But the way ULT products work with this two-lamp  
13 configuration you have drawn, it is not functioning in that  
14 way, is it?

15 A. It is not functioning in that way.

16 Q. It could redo the circuit and then you could get it to  
17 function that way.

18 A. Right.

19 Q. Just to try to cut matters a little shorter, Doctor  
20 Roberts, with respect to the other ULT products, the Linear  
21 Group 4, the CFL Group 1 and 2, and the microcontroller  
22 circuits, would you agree in all those products there is at  
23 least one DC blocking capacitor that does not perform the  
24 function of the DC blocking means?

25 A. I am not -- I would not phrase it that way. There is at

1 least one DC capacitor that does not individually stop the  
2 flow of the DC control current.

3 Q. Okay. And as they are configured, one DC blocking  
4 capacitor, that is not operable to stop the flow?

5 A. If you are asking me to construe the word operable, it is  
6 my understanding that the word operable means it can stop the  
7 flow if the flow is directed towards that pair of output  
8 terminals. And they are operable to -- even though they are  
9 not configured in a particular circuit, to stop the flow of  
10 the DC control current.

11 Q. The way ULT manufactures and sells those ballasts, the DC  
12 blocking capacitor that we are referring to does not stop the  
13 flow, and you would have to rewire the ballast in order to get  
14 it to. Is that correct?

15 A. Some of the capacitors do not stop the flow.

16 Q. Some of them. And in each of the products there is at  
17 least one that is in that position. Is that correct?

18 A. Certainly in most of the products; I couldn't say in each  
19 without reviewing all of the diagrams again.

20 Q. Now, the Group 1 CFL product --

21 A. Yes.

22 Q. -- your analysis of this, you have analyzed this product  
23 in a one-lamp configuration. Is that correct?

24 A. That is not the Group 1 CFL.

25 Q. I pulled the wrong one. I apologize. Let me ask you

1 about this one. It may be the same. Would you agree with me  
2 that that -- the ballast that is the microprocessor Group 1 is  
3 a ballast that could be used either in a one- or two-lamp  
4 configuration?

5 A. That is correct.

6 Q. And you would agree with me in a two-lamp configuration  
7 it does not literally infringe the '529 Patent Claim 1.

8 Correct?

9 A. In a two-lamp it does not literally infringe.

10 Q. And it is a ballast is made to accommodate up to two  
11 lamps. Correct?

12 A. Excuse me?

13 Q. It is a ballast that can accommodate two lamps?

14 A. Yes. It can accommodate two lamps or one lamp, yes.

15 Q. You don't know how many people use the ballast, the 4800A  
16 ballasts that are sold by ULT in the one-lamp configuration  
17 that you say infringes versus the two-lamp configuration that  
18 you agree doesn't infringe, do you?

19 A. I am not a lawyer, but I don't think the issue of whether  
20 a product infringes -- whether it stops infringing because it  
21 is used in a particular way if it infringes in another way, so  
22 I need a question I ask answer as a technical, not a legal  
23 expert.

24 Q. My question is even simpler.

25 A. It infringes because it operates in a two-lamp mode. I



1 physically connected to a lamp?

2 A. It is a patent on a lighting ballast.

3 Q. All right. And have you -- do you see any patents that  
4 are familiar to you that are listed there in the references  
5 cited in terms of other prior art patents that were cited to  
6 the PTO in connection with trying to get this patent?

7 A. Bobel's '529 Patent is the third one down in the  
8 references cited, and you highlighted it in yellow.

9 Q. You made reference to a schematic.

10 A. Yes. That schematic diagram is either identical or very  
11 similar to the diagram ULT provided us for CFL 1 and CFL Group  
12 2.

13 MR. SKEELS: Your Honor, may I approach the witness  
14 again to put an exhibit up? Thank you.

15 Q. (BY MR. SKEELS) Let me also hand to you, Doctor Roberts,  
16 an exhibit previously admitted as Plaintiff's Exhibit No. 58.  
17 Is this a schematic of the Group 1 CFL product?

18 A. Yes, it is.

19 Q. And for purposes of infringement, is the schematic  
20 represented on CFL-1 the same as the Figure 8 shown in this  
21 ULT patent?

22 A. I believe it is, yes. I have looked at it previously to  
23 form this determination.

24 Q. And in terms of how this patent describes this circuit  
25 shown in Figure 8 of the '652 Patent, is there anything in

1 there of significance to you?

2 A. Well, it is the same as this Group 1 diagram, and,  
3 therefore, it has the DC blocking means, it has the DC control  
4 current, it shows the shutdown circuit, it shows the Zener  
5 diode used to measure the voltage for the shutdown circuit,  
6 describes that. The specification talks about how the Zener  
7 diode is equivalent to a DIAC. It also describes a one-shot  
8 starting means, that second path in Bobel's circuit. It is  
9 not a second path, but they specifically use a capacitor in  
10 the DC -- in that part of the control circuit that senses the  
11 DC control current, they use a capacitor as they describe it  
12 to get a single starting pulse because multiple starting  
13 pulses would affect the circuit. And that all takes place  
14 outside the IC using discreet components. So it is the same  
15 affect of these two circuits in Bobel to get a single starting  
16 pulse.

17 Q. Doctor Roberts, let me direct you to the end of the  
18 patent where the claims are set out. Can you read the first  
19 part of Claim 1, doctor Roberts?

20 A. "An electronic ballast protection and control circuit,  
21 comprising: An end of lamp life sensing and control circuit  
22 adapted to sense an end of lamp life condition as in a gas  
23 discharge lamp connected to an electronic ballast."

24 Q. And you have heard comments from Mr. Routh that ULT  
25 doesn't sell any products that are actually physically

1 connected to lamps. Is that right?

2 A. That is correct.

3 Q. So does the author of this patent appear to be using  
4 "connected to" in the same way that you described?

5 A. Yes, he does.

6 Q. Does he appear to be using it interchangeably with "for  
7 connection to"?

8 A. Yes, he does.

9 Q. That is Claim 1 we just looked at, Doctor Roberts. Does  
10 the author of this patent -- What language does the author of  
11 this patent use to refer to the output terminals?

12 A. In Claim 2 he uses lamp load connected to an electronic  
13 ballast. And the same in Claim 3.

14 Q. Yes.

15 A. Yes. And the same in Claim 4.

16 Q. And Claim 5?

17 A. And Claim 5.

18 Q. And Claim 6?

19 A. And Claim 6.

20 Q. You have talked some about one-shot triggers. Is that  
21 right?

22 A. Yes.

23 Q. And you heard Mr. Routh ask you quite a number of  
24 questions about whether or not their products that they sell  
25 incorporate this one-shot trigger type of circuit. Is that

**Trial Transcript, Volume C, Dated June 14, 2011**

1 A. Yes. I'm still friends with the president.

2 Q. Were you here for Mr. Routh's opening statement?

3 A. Yes, I did.

4 Q. Did you feel he was suggesting or implying that you left  
5 Motorola on mysterious terms and may have taken property of  
6 theirs, including this patent application?

7 A. Yes, I felt that.

8 Q. What was your reaction when you heard that suggestion by  
9 Mr. Routh?

10 A. I was deeply touched personally.

11 Q. What do you mean deeply touched?

12 A. Basically, upset.

13 Q. And why were you upset?

14 A. Because somebody accused me of something which never  
15 happened.

16 Q. Has anyone today ever accused you or suggested or implied  
17 that you took something of someone else?

18 A. No, I haven't.

19 Q. As we sit here today, has Motorola ever said, hey, Andrew,  
20 some of these patents you have, they're not yours, they're  
21 mine?

22 A. No.

23 Q. Now, sir, when you were at Motorola designing products,  
24 how many patents were issued that you worked on at Motorola  
25 that were part of Motorola and that were their patents?

1 A. I think four.

2 Q. Four. And did you develop products for Motorola?

3 A. Yes, I did.

4 Q. And did you test those products?

5 A. Yes.

6 Q. And were those products sold in the market?

7 A. Yes.

8 Q. What kind of testing would be undertaken by you and others  
9 at Motorola before that product could go out the door?

10 A. Oh, very extensive testing. Obviously, in the design  
11 process every ballast need to be complied with the standards,  
12 ANSI standards, the UL standards, which are the safety  
13 standards, performance standards, and then lamp light  
14 standards. That means the ballasts are tested in a testing  
15 center for lamp life. It means we had to prove that lamp life  
16 was not degraded by the ballast performance so we have to test  
17 it and test it and test it, so Motorola has a very extensive  
18 computerized testing center loaded with lamps and  
19 automatically detecting any failures and recording hours and  
20 cycles. So, there was very extensive testing. Motorola --  
21 and I personally can say that -- I've been involved in setting  
22 up new six Cigma design projects for design engineers.

23 Q. In your experience, is that typical for most engineers in  
24 the lighting industry to test products before they go out?

25 A. Yes.

1 Q. Are you familiar with wiring diagrams that get issued by  
2 lighting manufacturers?

3 A. I have.

4 Q. Do they have the issue values and lock values and things  
5 of that sort?

6 A. Yes. The test has been full of data, providing light  
7 designers, what the parameters of input and output.

8 Q. How do you get that information?

9 A. You have to test the product with the real lamps and you  
10 have tests with many companies' lamp. For example, there are  
11 many brands, Phillips, G.E., Sylvania, and we actually tested  
12 with every one.

13 Q. Now, sir, when you left Motorola, what did do you?

14 A. I have prior technologies which I have level of so I have  
15 entered into license agreement with Robertson Transformer  
16 Company.

17 Q. Robertson Transformer. Who is Robertson Transformer?

18 A. Robertson Transformer is at the time in 1992 was number --  
19 I think number four ballast manufacturer in the United States.

20 Q. Where were they headquartered?

21 A. In Blue Island, Illinois, which is the Chicago area.

22 Q. In 1992, was Robertson making ballasts?

23 A. Mainly ballasts but not electronic ballasts.

24 Q. Magnetic ballasts?

25 A. Magnetic ballasts.

1 Q. Did you go to work with them making electronic ballasts?

2 A. Yes. I licensed the technology and I actually entered the  
3 license agreement which spelled out that I would be supporting  
4 the license agreement. This was my kind of -- my way of doing  
5 business of the so-called technology licensing, I provide full  
6 support for licensing.

7 Q. The license you gave them at the time, was it for patents  
8 that had already issued, like your tanning bed license?

9 A. It was the patent --

10 Q. I mean the ballast that you developed for tanning beds?

11 A. It was related to that. We had a level of technology  
12 prior to Motorola, I disclosed that in my employment, and the  
13 patent is now issued 106 patent.

14 Q. Now, Mr. Bobel, while were you at Robertson, did you  
15 office at their offices in Blue Island, Illinois?

16 A. I've been every day there for thirty hours a week.

17 Q. And, sir, what were you doing there during your thirty  
18 hours a week?

19 A. I've been instructing the engineers, technicians, helping  
20 in design, and even manufacturing, outsourcing, helping --  
21 complete process of setting up a new electronic ballast  
22 division like department in Robertson.

23 Q. Were you a full-time employee of Robertson or a  
24 consultant?

25 A. I was only a licensor.



1 Q. Okay. So you were not --

2 A. Employee, not. A consultant, I was a licensor, I had a  
3 license agreement only.

4 Q. Sir, let me ask you, what do you do today?

5 A. Today I am the CEO and president and chief technology  
6 officer of my own company, in Neptun Lighting.

7 Q. And what is Neptun Lighting, what do they do?

8 A. Neptun Lighting manufactures lighting products, induction  
9 and compact fluorescent.

10 Q. Is this a compact fluorescent bulb?

11 A. Yes.

12 Q. Is this the kind that you make?

13 A. Yes.

14 Q. Where are they made?

15 A. We make them in China. We own the company in China.

16 Q. When did you form Neptun?

17 A. Neptun was formed in 2002, on June 13th.

18 Q. June 13th. The same day as your birthday.

19 A. Yeah.

20 Q. And, sir, do you still make these lightbulbs today?

21 A. Yes, we do.

22 Q. Do you have agreements with companies to make lightbulbs  
23 for them?

24 A. I do.

25 Q. With whom?

1 A. With Sylvania at the moment and some other brand names,  
2 electronics help us and others.

3 Q. So, if I went to the Lowes here in Wichita Falls and  
4 bought an Osram Sylvania Products light, is there a chance you  
5 made it?

6 A. A dimmable one, yes.

7 Q. A dimmable one. Is this a dimmable?

8 A. I don't know.

9 MR. SUDER: May I approach, Your Honor?

10 BY MR. SUDER:

11 Q. What is a dimmable CFL?

12 A. A dimmable is the one that can be placed in the place of  
13 lightbulb and can be dimmed with an existing dimmer near a  
14 wall.

15 Q. Just turn --

16 A. This one does not dim.

17 Q. And, sir, how often do you go back and forth to China?

18 Quite a bit?

19 A. Now about once a quarter.

20 Q. And before then when you started the company?

21 A. Much -- no, every two months.

22 Q. And, sir, does this require your full-time?

23 A. Yes. Absolutely.

24 Q. And when you started this company in 2002, did it require  
25 your full time?

1 A. That's right.

2 Q. Is the focus on claim 1 on what happens when a lamp goes  
3 bad or if removed?

4 A. Yes.

5 Q. Now, sir, there's been a lot of talk with Dr. Roberts.  
6 Did you invent voltage source means?

7 A. No.

8 Q. Did you invent the rectifier?

9 A. No.

10 Q. Is that something that's been known since you first became  
11 an electrical engineer?

12 A. Yes.

13 Q. Do you understand what is an output terminal?

14 A. No, I haven't invent it.

15 Q. Is it fair to say that both its source or rectifier and  
16 output terminals are part of every ballast since the beginning  
17 of time?

18 A. That's right.

19 Q. But there are two other elements in your claim called the  
20 control means and the DC blocks means?

21 A. That's right.

22 Q. Were those -- did those exist at the time of your  
23 invention?

24 A. They didn't exist.

25 Q. Okay. And would someone who is skilled in the art, you

1 understand that term?

2 A. Yes.

3 Q. Would someone that's skilled in the art know that for any  
4 ballast you have -- and this is your claim -- voltage source  
5 means and output terminals?

6 A. Yes.

7 Q. Would those just simply be background parts that you need  
8 to get to the heart of your invention?

9 A. That's right.

10 Q. Okay. And, sir, the term DC blocking means. Had that  
11 been a term you'd ever seen before?

12 A. No. I actually came up with it.

13 Q. Had you ever seen the term a DC blocking capacitor?

14 A. Yes. And that's been used sometimes by engineers.

15 Q. Sir, this -- Let me point out something else. So you  
16 understand, in an electronic ballast, the way you get your low  
17 frequency AC from the wall and convert it to DC that can go to  
18 the input terminals, what is it that you use?

19 A. I use an inverter. Oh, use the rectifier first and then  
20 go from DC to a converter high frequency.

21 Q. To go from wall AC to DC, it's a rectifier?

22 A. Rectifier. Or some people call it rectifier with other  
23 additional pre-converters.

24 Q. Now, sir, let me ask you about integrated circuits. Do  
25 you know what those are?

1 A. Yes, I am.

2 Q. And how long have those been around?

3 A. A long time. I don't know exactly.

4 Q. And since you were working in the 80s have you seen or  
5 known about integrated circuits for use with ballasts?

6 A. For ballasts I actually seen one but later in 80s.

7 Q. Late when?

8 A. Later in 80s. I don't remember the exact date, year.

9 Q. But, sir, was some -- was the use of an integrated circuit  
10 something that could be used with a ballast when you were  
11 developing this invention?

12 A. It was nonexistent to the point that I could apply and use  
13 in my, let's say -- let's say in my first embodiment. It was  
14 not available.

15 Q. No, but I'm saying the -- what is an integrated circuit?

16 A. Integrated circuit is a complex circuit of various diodes  
17 and transistors which performs certain function, designed to  
18 perform certain function.

19 Q. Are there discrete components within an integrated  
20 circuit?

21 A. Well, when the circuit, integrated circuit is first built,  
22 it usually is built discretely, that means it's built on the  
23 -- originally, we build on it a board. That was the original  
24 start. So we use components, we create a big IC, it was  
25 large, and then we use computers like designers now use. But

1 all build in discrete elements to create integration.

2 Q. But in the 80s, had you known what integrated circuits  
3 were and had you worked with integrated circuits? You have to  
4 answer audibly?

5 A. Yes.

6 Q. And, sir, is there any discussion of integrated circuits  
7 to one skilled in the part in your patent? Here, let me give  
8 you a copy. You don't need to go -- Let me show you -- how do  
9 you show -- you know what a schematic is?

10 A. Yes.

11 Q. How do you show an integrated circuit on a patent?

12 A. Well, some kind of a block diagram with some kind of  
13 block -- elements inside.

14 Q. Yes. Do you know what pin is?

15 A. Yes.

16 Q. What is a pin?

17 A. Pins, little terminals which are on an integrated circuit  
18 body to be connected to a PC board, on a circuit board and  
19 usually there are eight, sixteen, and so on.

20 MR. SUDER: Your Honor, may I approach?

21 BY MR. SUDER:

22 Q. Do you describe any pins or integrated circuits anywhere  
23 in your patent? For example, to move this along, would you  
24 look at column -- figure 5 -- figure 4.

25 MR. ROUTH: I'm going to object. Leading. I've been

1 trying to avoid that, but it's gotten bad.

2 **THE COURT:** Try not to lead.

3 A. Figure 4 has a block with a dotted line 402.

4 Q. Right here.

5 A. And it shows every terminal which is going into that  
6 block, has a little dot and it has numbers P 4, P 6, P 7, P 5.  
7 What it means --

8 Q. Hold on a second, Mr. Bobel. Would you turn to column 6  
9 of your patent at line 65.

10 A. Column 6?

11 Q. Yes. Do you see -- do you see on the bottom of column  
12 6 --

13 A. Which line?

14 Q. The very bottom. It's highlighted on the screen. It's  
15 right there.

16 A. Oh, okay.

17 Q. What is that referring to?

18 A. One shot trigger circuit 702 has four pin terminals, pin  
19 2, P 2, P 3, P 4 -- the P 4 is so and so. Yes, I inferred  
20 this -- I imply this could be integrated and has pins.

21 Q. So, it's -- one way to practice your invention is to use  
22 an integrated circuit?

23 A. Yes.

24 Q. So, again, were integrated circuits known at the time of  
25 your invention that could be used as part of your invention

1 for part of the circuitry?

2 A. I couldn't -- I could not find it, one which I could use  
3 even certain parts.

4 Q. Mr. Bobel, I'm not asking you if they were out there.

5 A. Uh-huh.

6 Q. I'm asking you if you knew how to use them?

7 A. Oh, yes. Absolutely.

8 Q. And other people in the field --

9 A. Absolutely.

10 Q. -- as far as you know, would know that you could use an  
11 integrated circuit to perform part of the circuitry within  
12 your patent?

13 A. Yes.

14 MR. ROUTH: I objection to leading.

15 A. If I can explain more, I can answer.

16 MR. SUDER: Hold on. When he objects, you have to  
17 wait.

18 THE COURT: I didn't hear your objection.

19 MR. ROUTH: My objection is other people in the field  
20 would know.

21 MR. SUDER: I asked him his understanding, Your  
22 Honor.

23 THE COURT: Okay. You can ask that.

24 BY MR. SUDER:

25 Q. Let me ask you, Mr. Bobel, as one skilled in the art



1 working this field, what is your understanding what people  
2 would -- who are electrical engineers would understand that  
3 they could use an integrated circuit to perform part of your  
4 invention?

5 A. Absolutely. If somebody were --

6 Q. I --

7 A. I can say it this way. I can always elaborate a little  
8 bit more. If -- if somebody who is an engineer, a designer of  
9 integrated circuits, see my figure 4 or figure 7, relates to  
10 this pin 1 to pin 4 device, could design small integrated  
11 circuit. In fact, if I will need to do that and I have a  
12 founding to do that, I will probably do that in the first  
13 instance myself because that's not a complicated issue to do  
14 that. However, it was not my objective to do that.

15 Q. Let me just make sure we're clear on this. It was known  
16 to you at the time that you could use an integrated circuit --

17 A. Yes.

18 Q. -- to perform different functions of the circuitry  
19 disclosed?

20 MR. ROUTH: Objection. Leading.

21 THE COURT: Try not to lead, please.

22 MR. SUDER: Yes, Your Honor.

23 BY MR. SUDER:

24 Q. Now, Mr. Bobel, let me ask you a question. Do you know  
25 what the word trickle is in electronics?

1 A. Yes.

2 Q. What is trickle?

3 A. Trickle means small current only to sustain life of some  
4 device or trickle charge to charge a battery.

5 Q. Is that something that's known --

6 A. Yes.

7 Q. And let me ask you, in your patent, there's been a lot of  
8 discussion about the concept of not drawing power from a power  
9 line source.

10 A. Yes.

11 Q. When -- when the ballast goes to sleep.

12 A. Oh, if I can answer that --

13 Q. Yes.

14 A. I --

15 Q. What did you mean by that?

16 A. I meant this power means we're delivered to the load.  
17 Power consumed by the lamp. Power consumed by the ballast to  
18 sustain in sleep mode is trickle power. It just power of  
19 maybe one, maybe two milliamps just to keep the sleep mode  
20 running on the so-called integrated circuit alive in its state  
21 which you're required to keep.

22 Q. So, when you say in there that one of the goals of your  
23 invention -- Let me go to -- bear with me one second, sir. In  
24 the top of column 2, do you see that paragraph started right  
25 there?

1 A. Yes.

2 Q. It says based on the background outline above, it's  
3 entirely desirable to have a series resonant ballast with gas  
4 discharged lamp which will not draw power from a power line  
5 source when lamps are removed or inoperable?

6 A. Yeah. And I can explain this. Like I said before, the  
7 parallel resonant ballast droves -- in the range of about ten  
8 watts when lamps are removed. So, that's a consuming  
9 substantial power loss in the ballast by sitting in a ceiling,  
10 heating the ceiling. Other ballasts, magnetic ballasts draw  
11 more than that, maybe 15 watts. This is -- relates to this  
12 prior art products on the market which are consuming so much  
13 power and they are sitting there and heating and I solved that  
14 by shutting down, go to sleep.

15 Q. Sir, when you say as one skilled in the part, when you say  
16 power, when you put in it a trickle fashion?

17 A. That's right.

18 Q. Now, sir, is the concept of not drawing power from a power  
19 line source, is that anywhere in claim 1?

20 A. No.

21 Q. Okay. You understand as someone with over 50 patents that  
22 the claims describe your invention?

23 A. Yes, I do. I wrote them.

24 Q. Sir, also here you say it will strike new lamps after  
25 re-lamping without turning the power line voltage on and off?

1 A. Yes.

2 Q. And that can be adapted to any lamp type and power line  
3 voltage magnitude will be very simple and easily  
4 manufacturable with a high repeatability and it will be  
5 inexpensive?

6 A. Yes. This is my key requirements. Always will be in the  
7 ballast.

8 Q. And that's not -- that -- does that define the scope of  
9 your invention?

10 A. It defines the futures.

11 Q. The goals.

12 A. The goals. The futures of the invention.

13 Q. Now, let me ask you one other question, sir. Going back  
14 to integrated circuits. In column 11 on line 34.

15 A. 34.

16 Q. I'm just going to highlight the paragraph for you so we  
17 can move this quickly. Do you see that paragraph?

18 A. Yeah.

19 Q. It will be understood that all other types of oscillatory  
20 circuits either self-oscillatory or full bridge type tie back  
21 can be equipped with the present described control circuits  
22 and goes on.

23 A. Yes.

24 Q. My question is, sir, can a driven oscillator circuit be  
25 driven by an integrated circuit?

1 A. Yes.

2 Q. Was that known at the time of this invention?

3 A. Yes.

4 Q. Now, sir, I'd like to talk to you about the developments  
5 in the industry after your patent has issued and the patent  
6 was issued on July 25th, 1995?

7 A. Yes.

8 Q. And do you understand that's good until it expires in  
9 February 2013?

10 A. Yes.

11 Q. And -- who owns the patent today?

12 A. I own it.

13 Q. Not Lighting Ballast?

14 A. No.

15 Q. Not Acacia?

16 A. No.

17 Q. Other than the patents -- original patents with Motorola,  
18 have you ever sold any of your patents?

19 A. The first one to Motorola, as I said before, and then I  
20 have not sold other patents per se selling it. I always  
21 license them.

22 Q. Okay. Now, sir, we talked about a T 12. What is this  
23 one?

24 A. T 8.

25 Q. And this one?

1 Q. Did there come a time when you learned that ESI was bought  
2 out of bankruptcy by Universal?

3 A. I learned that later.

4 Q. When later?

5 A. I don't remember exactly but I learned that just by  
6 discussing the subject with someone who was familiar with it  
7 in 2003, maybe 4.

8 Q. Do you remember when you wrote to Universal, we'll talk  
9 about that shortly. That was September of 2005?

10 A. Yeah.

11 Q. I contacted -- you had an attorney write a letter?

12 A. Yes.

13 Q. That was Mr. Tolpin in Chicago?

14 A. Yes.

15 Q. How did you get Mr. Tolpin's name?

16 A. I got it from my accountant, he was a close friend.

17 Q. A friend of your accountant?

18 A. Yes.

19 Q. Do you remember when it was, roughly in 2005 when that  
20 would have been?

21 A. Sometime in the tax season or before.

22 Q. Tax season.

23 A. Yes.

24 Q. March or April of that year?

25 A. Of that year.

1 Q. Both be handwritten that time that you learned about ESI  
2 being bought by Universal lighting?

3 A. I learned that earlier.

4 Q. How much earlier?

5 A. Maybe a year later -- earlier.

6 Q. Maybe -- maybe --

7 A. I cannot remember exactly but something like one year  
8 earlier.

9 Q. We will come back to that. Now, Mr. Bobel, you signed an  
10 agreement with Robertson.

11 A. Yes.

12 Q. Did you sign any other license agreements --

13 A. Yes.

14 Q. -- with any other companies relating to your '529 patent?

15 A. At that time? No, because it was exclusive license.

16 Q. Are you familiar with the company TCP?

17 A. Oh, yes.

18 Q. Who is TCP?

19 A. TCP is Technical Control Product, a company from Ohio  
20 which I met the owner in 1996 at one of the trade shows and we  
21 got together since I've been not only working on '529 patent  
22 but I also work, as my book shows, the log book, that I show  
23 many other technologies at the same time, so I file many  
24 applications during the same period of time.

25 Q. Mr. Bobel, do you have any patents on compact fluorescent

1 lightbulbs?

2 A. I have a patent on a compact fluorescent electronic  
3 ballast, a small ballast technologies called integrated power,  
4 dimmable compact fluorescent ballasts.

5 Q. Dimmable compact fluorescent ballasts? Did you invent or  
6 work on those with TCP in the 90s?

7 A. Hi a license agreement signed in 1996 with TCP licensing a  
8 key patent which I developed the technology able or dimmable  
9 compact fluorescent and non-dimmable compact fluorescent so I  
10 actually help them out again providing full service, design  
11 service from my home lab, the whole line of compact  
12 fluorescent lamps.

13 Q. Was this at the same time you were working with Robertson?

14 A. Yes. I was doing both.

15 Q. And the agreement thank you had at the time with TCP, did  
16 it cover your '529 patent?

17 A. No. Not at all.

18 Q. Sir, did you develop a lightbulb, compact fluorescent  
19 lightbulb with TCP in the late 90s?

20 A. I didn't.

21 Q. And did it sell in the marketplace?

22 A. Very well much it was the first dimmable compact  
23 fluorescent and non-dimmable compact fluorescent and this  
24 spring lamp, this spiral lamp like this in 1988, the first  
25 introduction like this in the home into the United States



1 market was Home Depot got --

2 Q. Mr. Bobel, you are talking a little too low and fast. If  
3 you can talk slower and louder so we can all understand would  
4 be better. So, in 1998, Home Depot sold the first compact  
5 fluorescent lamp bulb that you had developed in conjunction  
6 with TCP?

7 A. Yes.

8 Q. What happened with your relationship with TCP?

9 A. It was a very long relation as well. It was seven years  
10 very extensive design work because TCP expanded the product  
11 offering from small compact fluorescent to a larger compact  
12 fluorescent to circle lamps to floor lamps, to fixtures, and I  
13 support them in everything, providing them complete line of  
14 electronics controls and even globe type, reflector type  
15 lamps. We created first lines of the compact fluorescent  
16 lamps, covered with reflectors. So, the relationship expanded  
17 and income stream was good, and I at some point I own 5% of  
18 the company, but then I sold it back and they actually -- in  
19 2001 they -- they want to exercise and pay off the license.  
20 In 2001, we entered into a pay off agreement. They paid lump  
21 sum two and-a-half million dollars and we basically -- I  
22 provide them with perpetual license to portfolio of patents.

23 Q. Including the '529?

24 A. Including '529 since they were already nonexclusive with  
25 Robertson.

1 Q. Did they ever make product that utilized your '529 patent?

2 A. No, they didn't.

3 Q. To this day, do you know if they've ever utilized?

4 A. Never did.

5 Q. Did you require TCP to mark in that agreement, if they  
6 ever did make a product?

7 A. I always have this clause in the agreement and TCP mark  
8 their compact fluorescent lamps with patent pending or patent  
9 that or patent number through out the seven year or more  
10 period.

11 Q. Now, Mr. Bobel, let me ask you as it relates -- Let me  
12 show you Joint Exhibit 29. Is this a copy of the agreement  
13 with TCP?

14 A. This is not the first one.

15 Q. Is that the first agreement --

16 A. No.

17 Q. -- that cover it is '529 patent?

18 A. Perhaps. But not the first agreement with TCP.

19 Q. But that was on the compact fluorescent bulbs. I'm asking  
20 is this the first agreement relating to the 529?

21 A. Let me self. Yes.

22 Q. And was there an obligation in here in the event any  
23 product was made practicing the '529 that TCP would mark the  
24 product with your patent number?

25 A. Yes.

1 Q. Let me show you paragraph 5.06. Is that the provision?

2 A. Yes. 5.06.

3 Q. Now, sir, after TCP bought out their license with you,  
4 what did you do?

5 A. Well, I opened Neptun.

6 Q. You opened Neptun. After your inception with TCP and  
7 making compact bulbs, your decided to go into your own  
8 business?

9 A. That's right. I decided also to go to my business with  
10 another generation of compact fluorescent dimmable bulb  
11 technology to the market because the first generation I  
12 licensed to TCP but I have developed another generation of  
13 that product which was better dimming, have better range, and  
14 could work with more type of products and more successfully  
15 sold.

16 Q. Mr. Bobel, your voice keeps trailing. I'm sorry, it's  
17 okay. Get some water --

18 A. I need to get some water.

19 Q. Just speak up. It would be appreciated.

20 A. I'm sorry.

21 Q. Mr. Bobel, are you familiar with the company LEB  
22 Electronics?

23 A. Yes.

24 Q. Did you ever sign a license agreement with LEB?

25 A. Yes.

1 Q. To cover your '529 patent?

2 A. Yes.

3 Q. When was that?

4 A. I don't remember exact dates.

5 Q. Let me show you Joint Exhibit 26.

6 MR. SUDER: May I approach, Your Honor?

7 THE COURT: Yes.

8 BY MR. SUDER:

9 Q. And it's an agreement dated July 28, 1997. Is that the  
10 date of your agreement with LEB?

11 A. Yes.

12 Q. Now, did LEB ever make products that were covered by the  
13 '529 patent?

14 A. Actually, never made product, they make prototypes.

15 Q. I'm sorry?

16 A. They made prototypes and ready to market.

17 Q. But did they ever sell a commercial product?

18 A. They never sold themselves but I can -- if I can explain  
19 that. The company was sold later to Magnitech.

20 Q. All I'm asking, sir, is did LEB ever sell an electronic  
21 ballast practicing the '529 patent?

22 A. No.

23 Q. In the United States?

24 A. No.

25 Q. So, they never had to pay any license fees?

1 A. They actually paid so-called termination fee.

2 Q. To cancel the agreement later?

3 A. That's right.

4 Q. Now, looking at paragraph 5.11 of the agreement, did you  
5 require LEB, if they were ever to sell a product, to mark  
6 their product with your patent?

7 A. Yes.

8 Q. Is that consistent with your practice at the time?

9 A. As you can see every license agreement include the clause.

10 Q. Now, was your agreement with LEB for exclusive or  
11 nonexclusive?

12 A. It was nonexclusive. There was a company located in  
13 China, by the way.

14 Q. How about with TCP? Was it exclusive or nonexclusive?

15 A. Nonexclusive.

16 Q. Now, sir, have you done any other licenses yourself  
17 relating to the '529 patent, talking about Robertson, TCP, and  
18 LEB. Are there any companies that you were successful in  
19 licensing yourself relating to the '529 patent?

20 A. There are only recently up to 2009 I enter in a license  
21 agreement with Neptun, my only company, because we have  
22 venture capitalists, private equity, and I am required to have  
23 a license of all the patents I own personally. Other than  
24 not, I do not.

25 Q. Does Neptun own any product that practices the '529

1 patent?

2 A. No.

3 Q. They just make dimmable lightbulbs.

4 A. And other products, but no.

5 Q. Are you familiar with the company Osram Sylvania?

6 A. Yes.

7 Q. Do they have a license?

8 A. Yes. Recently, yes, sir.

9 Q. Recently. How recently?

10 A. Oh, God. I don't remember the date.

11 Q. 2008?

12 A. 2008.

13 Q. Does that sound about right?

14 A. Yes.

15 Q. And, sir, are you doing business with Sylvania today?

16 A. Yes, I do.

17 Q. And would you explain to the jury what your agreement was  
18 with Sylvania in 2008?

19 A. There was a license agreement with Sylvania for the '529  
20 patent non-excluded --

21 Q. Andrew, again, you're talking, you've got to slow -- I  
22 know this is -- you've got to slow down and talk slower,  
23 particularly with your accent, it's just easier to understand.

24 A. It was nonexclusive license agreement, the '529 patent to  
25 Sylvania in return for lump sum payment and business

1 arrangement, a business deal which I created with Sylvania  
2 throughout last four or five years creating for Neptun  
3 substantial sales to Sylvania various products.

4 Q. Does Sylvania buy Neptun's lightbulbs?

5 A. Yes. Private label.

6 Q. Did they buy them as a result of your agreement in 2008?

7 A. That's right.

8 Q. Was your license that you gave them part of that bigger  
9 deal?

10 A. That's right.

11 Q. Did you -- was the value called the license all that there  
12 was to you?

13 A. That's right. There was -- 300 something thousand dollars  
14 but the deal which I made on the business side created sales  
15 to Sylvania in excess of \$6 million dollars up-to-date.

16 Q. Was that deal with Sylvania in 2008 a good deal for you?

17 A. A very good deal, yeah.

18 Q. So, the license was part of the bigger deal that turned  
19 out to be a good deal?

20 A. That's right.

21 Q. So, it's been -- it's generated revenue for Neptun of over  
22 \$6 million dollars?

23 A. That's right.

24 Q. Now, sir, is it ongoing today?

25 A. Yes.

1 Q. So, as we sit here right now, Sylvania -- you're making  
2 product that Sylvania is buying?

3 A. And shipping every month.

4 Q. Now, sir, are there other companies that you know of that  
5 have licensed the '529 patent?

6 A. No.

7 Q. Has G.E. --

8 A. Oh, G.E. license, obviously. This is all that -- action  
9 of Acacia and G.E. license and Fullem.

10 Q. And Phillips?

11 A. And Phillips.

12 Q. Is the G. E. license an ongoing royalty?

13 A. Yes, it is.

14 Q. How much is that royalty?

15 A. 7.5%.

16 Q. Of their sales of ballasts?

17 A. That's right.

18 Q. Are they paying today for that?

19 A. They pay quarterly.

20 Q. So, they're still using and practicing and selling  
21 ballasts that practice the invention and paying lighting  
22 ballast royalties that you get a part?

23 A. That's correct.

24 Q. And who is Fullem?

25 A. Fullem is another ballast manufacturer, lighting company.



1 Q. And did they take a license?

2 A. Yes.

3 Q. And was that through the efforts of lighting ballast?

4 A. Yes.

5 Q. Did you get a portion of that?

6 A. That's right.

7 Q. What about Phillips?

8 A. The same way.

9 Q. The same way. And do you share with lighting ballasts  
10 50/50?

11 A. Yes.

12 Q. Now, sir, at the time that Robertson had the exclusive and  
13 you were -- and you had these other agreements and they were  
14 the only ones making product, we saw you -- they would mark  
15 your product?

16 A. Yes.

17 Q. Would you periodically check to make sure they were  
18 marking?

19 A. Yes. Even after I left, I always checked them.

20 Q. Now, sir, when did you think that Universal may be  
21 infringing your '529 patent?

22 A. Well, it happened when I retained an attorney to write the  
23 letter to Advance Transformer, Phillips, G.E. --

24 Q. I'll represent to you that was in September of 2005?

25 A. Yes. And so we -- we started to search out what products

1 each company makes, how they describe the product in their  
2 data sheets, what futures they claim and apply protection or  
3 not, automatic restart or not. So, we went through their --  
4 their catalogs and websites and I noticed that the ESI model  
5 numbers popped up on the ESI website and it showed end-of-life  
6 and that's the first time I actually noticed that. So, then I  
7 went further to investigate and I noticed that -- that the  
8 portfolio patents manufactured by Magnitech or their the  
9 bankruptcy perhaps might contain some of the infringing --

10 Q. During this time period, were you going back and forth to  
11 China?

12 A. Oh, yes.

13 Q. Were you primarily focused on your Neptun business?

14 A. That's right.

15 Q. And when you saw this catalog, which I guess you said you  
16 thought the -- when you hired an attorney you got the lawyer's  
17 name from your accountant?

18 A. That's right.

19 Q. That was away tax season which would have been sometime  
20 before April 15 of that year, I assume?

21 A. Yes.

22 Q. Were you able to immediately drop what you were doing and  
23 look at the products?

24 A. No, you never do that in a business. You usually do  
25 things together. In-between.

1 Q. I'm confused -- you need to speak up. Take your time.

2 A. Basically, like in any business, you run the business and  
3 you do other things at the same time. So, it's -- it's not  
4 instantly. I couldn't do it instantly.

5 Q. So, how long did it take from the time you figured out to  
6 you -- until you realized they may be infringing?

7 A. Well, probably sometime right after I opened their been  
8 site I suspect they infringing on the evaluation of the data  
9 sheet.

10 Q. I see. And at that point were you able to look at  
11 Universal's schematics?

12 A. No.

13 Q. Are schematics available?

14 A. No.

15 Q. Do you share your schematics?

16 A. No.

17 Q. Are microprocessor code, source codes publicly available?

18 A. No.

19 Q. Do you use source code at all in your business?

20 A. We. We do for some products.

21 Q. Do you share that with anybody?

22 A. No.

23 Q. Have you ever seen the schematics, as we sit here today,  
24 for any of the ULT products that are the subject of this  
25 lawsuit?

1 A. No.

2 Q. You have not been permitted to see them?

3 A. Yes. I was told that I cannot see them.

4 Q. Now, sir, let me show you what's been marked as Joint  
5 Exhibit 51. And that is a letter from Tom Tolpin. Do you  
6 know who Mr. Tolpin is?

7 A. Yes.

8 Q. He is the attorney you contacted when you got the name  
9 from your accountant?

10 A. That's right.

11 Q. And he's the one that after you saw all this in that 2000  
12 time frame you went and contacted him?

13 A. Yes.

14 Q. Prior to this time, have you ever had to contact an  
15 attorney to help you enforce one of your patents?

16 A. Never. I always did myself. I wrote my own patent  
17 application, I wrote my own license agreements. I have not  
18 used attorney for any --

19 Q. So, when you did your deal with Robertson, you didn't use  
20 an attorney?

21 A. No.

22 Q. When you did your deal with TCP and LEB, you didn't use an  
23 attorney?

24 A. No.

25 Q. When you did your deal with Sylvania, did you use an

1 attorney?

2 A. No.

3 Q. So, Mr. Tolpin is the first time you had -- you had gotten  
4 a patent attorney and asked for help?

5 A. That's right.

6 Q. And let me show you Joint Exhibit 51 and ask you if this  
7 is the letter Mr. Tolpin wrote to Universal on September 5th,  
8 2005?

9 A. It is this.

10 Q. And in that letter, sir --

11 **MR. SUDER:** May I approach, Your Honor?

12 **THE COURT:** Yes.

13 **BY MR. SUDER:**

14 Q. Were you asking Universal to enter into negotiations with  
15 you?

16 A. Yes. We asked possibly to get a license. If I may add, I  
17 instructed the attorney to write the letter in a friendly way  
18 so we don't create any backfires.

19 Q. I do not -- Mr. Bobel, it's important you have an  
20 attorney/client privilege with Mr. Tolpin.

21 A. That's okay.

22 Q. So, I don't want you -- I just want to advise you -- I'm  
23 not going to ask you and you should not elicit, unless  
24 Judge O'Connor instructs, what you and Mr. Tolpin spoke about.  
25 That's between you and him.

1 A. Okay.

2 Q. Let me show you on Exhibit 51, Mr. Tolpin writes in your  
3 behalf, it's come to the attention of practice innovations  
4 ink, and Andrew Bobel, that Universal Lighting Technologies is  
5 manufacturing, selling, marking, distributing and/or supply  
6 ballasts fluorescent lighting which include control and  
7 protection circuits for electronic ballasts under the trade  
8 mark and brand names Universal which are covered by your  
9 patents?

10 A. Yes.

11 Q. Who is Practical Innovations?

12 A. Practical Innovations is a small S corp I formed for  
13 purpose of reporting recording, my licensing patent  
14 development, patenting and travel and -- so, all these  
15 so-called expenses and income related to licensing I keep  
16 separate from my personal into this small S corp, personal S  
17 corp.

18 Q. And it says there, Mr. Tolpin says we therefore request  
19 that Universal Lighting Technologies remedy this matter as  
20 soon as possible by negotiating a license with Practical  
21 Innovations, Inc. and Andrew Bobel?

22 A. Yes.

23 Q. Is that what you were seeking to do about this letter?

24 A. Yes.

25 Q. And you wrote to Mr. Patrick Sullivan?

1 A. That's right.

2 Q. A gentleman -- have you ever met Mr. Sullivan?

3 A. No, never did.

4 Q. He never called you when he got this letter?

5 A. No.

6 Q. Okay. Now, let me put up here -- were you aware, Joint  
7 Exhibit 52, that three weeks later, on October 7, 2005,  
8 Mr. Mark Patterson wrote back to Mr. Tolpin in response to the  
9 letter?

10 A. I see.

11 Q. Are you aware of that? Did you see this letter --

12 A. Yes, I see. Yes.

13 Q. And are aware that Mr. Patterson asked for more  
14 information about what products they think are covered and he  
15 says please be assured that once we have completed our  
16 research into this letter we will respond accordingly. Do you  
17 see that?

18 A. Yes, I see.

19 Q. Now, do you remember in opening Mr. Routh said that you  
20 never invited Universal to sit down and talk to you?

21 A. I remember.

22 Q. But in this letter did you, in fact, write to Universal  
23 and ask them to sit down and talk to you and negotiate a  
24 license?

25 A. I did. That's why I was so upset when I hear that.

1 Q. Thank you. So, on October 7th, Mr. Patterson, Universal's  
2 patent attorney writes and asks for more information so they  
3 can respond, and were you aware that Mr. Tolpin responded  
4 though that letter thirteen days later?

5 A. Yes. I was in part preparing that response.

6 Q. Did you help get the information together --

7 A. That's right.

8 Q. -- that Mr. Tolpin can send I let me show you Joint  
9 Exhibit 53 which is dated October 20th and it's addressed to  
10 Mr. Patterson, and it's from Mr. Tolpin. Thirteen days later.  
11 Do you see that?

12 A. Yes.

13 Q. And it says licensing proposal is what the letter says?

14 A. Yes.

15 Q. But you were asking that they engage in licensing  
16 discussions with you?

17 A. Yes.

18 Q. And you provide the information that Mr. Patterson  
19 requested?

20 A. Yes, I did.

21 Q. And this was on October 20th, 2005?

22 A. Yes.

23 Q. Do you remember the next -- when you heard from  
24 Mr. Patterson?

25 A. I don't remember. A long time had passed.



1 Q. At any time did Mr. Patterson, Mr. Sullivan or anyone call  
2 you or contact you?

3 A. No.

4 MR. SUDER: One in a moment, Your Honor.

5 BY MR. SUDER:

6 Q. Let me put up what is Joint Exhibit 60 -- we have --

7 A. That's okay.

8 Q. And this is an e-mail to you from Mr. Patterson on October  
9 5th of 2006. Approximately one year later. So, in the one  
10 year period, just so the record's clear, had you heard from  
11 anyone from Universal?

12 A. No.

13 Q. Now, in this letter -- Now, let me ask you this: At the  
14 same time you were writing to Universal, were you also  
15 communicating with General Electric?

16 A. Yes. I spoke to General Electric myself.

17 Q. They called you?

18 A. Yes.

19 Q. And you had discussions with them?

20 A. Yes.

21 Q. Now, in this letter -- in this e-mail, Mr. Patterson  
22 writes to you: That after Universal received clarifying  
23 information, Universal and its counsel thoroughly investigated  
24 this matter. What clarifying information had you given to  
25 them? Was that the information back in October of 2005?

1 A. That's only information.

2 Q. You had not given them any other information?

3 A. No.

4 Q. And after that point, Mr. Patterson tells you that both he  
5 and Universal thoroughly investigated this investigation and  
6 as a result included that it was not infringing the asserted  
7 claims of the patent and one of the bases for this inclusion  
8 was that the asserted claims of the patent were invalid under  
9 section 102 of the patent. Did I read that correctly,  
10 Mr. Bobel?

11 A. I remember.

12 Q. Did Mr. Patterson ever give you a reason why he felt that  
13 way?

14 A. No. I only -- I received this I remember I asked who  
15 this -- who the who declared the patent to be invalid.

16 Q. And at the time of this letter, 2000 or were you aware  
17 that Universal used to be a part of Magnitech?

18 A. Yes. At that time still mag any particular. Yeah.

19 Q. Did Mr. Patterson tell you that the engineers that were  
20 working with him at Universal thoroughly investigating this  
21 had ordered a prior art search on your patent several years  
22 earlier?

23 A. No.

24 Q. Now, later in this e-mail on Joint Exhibit 60,  
25 Mr. Patterson writes: Regarding the '529 patent, we have

1 concluded that the claims you asserted against Universal's  
2 products the patents you have asserted in the claims are  
3 invalid. Does Mr. Patterson, does he tell you any of the art  
4 that he says was the basis for why he felt the patent is  
5 invalid?

6 A. No. There was no other communication.

7 Q. What was your reaction when you got this letter, this  
8 e-mail?

9 A. The same like I said before, who declared the patent to be  
10 invalid.

11 Q. Mr. Bobel, maybe if you bring the microphone closer --

12 A. Okay.

13 Q. That -- I can hear you because you're looking at me but  
14 they need to hear you.

15 A. I said -- I said to myself when I received this, who  
16 declare the patent to be invalid and why -- how.

17 Q. Did you feel like you were getting the brush-off?

18 A. Absolutely.

19 Q. At the time you got this letter a year later, how busy  
20 were you?

21 A. Busy like always in business. All the time. Busy.

22 Q. And at the time you got this letter back, had I ever  
23 contemplated suing anyone on any of your patents?

24 A. Oh, yes, I always -- when the large companies infringe my  
25 patent, I notice that and I see that. I always contemplate to

1 do that. However, it's always the first thought is how we --  
2 how I will pay for it, how I will have funds to pay the legal  
3 fees. That's always a question.

4 Q. Had you ever had to file suit to enforce one of your  
5 patents?

6 A. Never before.

7 Q. And, again, which we discussed, this is the first time you  
8 had contacted an attorney --

9 A. That's right.

10 Q. -- to help you negotiate?

11 A. That's right.

12 Q. To try to get someone to sit down and talk to you. Yes.  
13 Now, I forget one other thing. In Mr. Tolpin's original  
14 letter of September of 2005, he lends his letter with the  
15 statement we would appreciate your prompt reply and  
16 cooperation in resolving this matter in an amicable manner.  
17 If you have any questions, please contact us.

18 Again, you were inviting to them to do -- to sit down  
19 and talk to you and not have to go to court?

20 A. That's right.

21 Q. Thank you. Now, Mr. Bobel, there's been a lot of talk  
22 about Acacia and lighting ballasts. How did you hear about  
23 Acacia?

24 A. I feel very good about Acacia and I found the company in  
25 the Forbes Magazine article which basically give me a -- hope

1 how to collect royalty from combs which are much larger than  
2 me and so icon tact them and we start discussing and I learned  
3 how --

4 Q. I'll get to that in a moment. I just want to owe my  
5 question is, Mr. Bobel, you read about Acacia in Forbes  
6 Magazine?

7 A. Yes.

8 Q. Were you looking for a partner at the time you just  
9 happened to stumble across the article?

10 A. That's right.

11 Q. Which is true?

12 A. That's true. I look at a partner to be -- I look for the  
13 partner all the time but I read Forbes regularly, so it just  
14 happened that I found it.

15 Q. And when you saw the article, did you contact Acacia?

16 A. Yes.

17 Q. And at the time you contacted them, again, how busy were  
18 you?

19 A. Busy all the time. Like -- like always busy. I can't  
20 recall right now how busy I was, but I'm always busy, so --

21 Q. Do you remember what year it was?

22 A. God, 97? 8?

23 Q. I'm sorry?

24 A. 8? 7? 8?

25 Q. 2007, 2008?

1 A. Yes.

2 Q. Okay. And, sir, prior to reading about Acacia, did you  
3 feel come forth able that you were able to take on a company  
4 like Universal by yourself?

5 A. No, I will not do that. I will not risk \$2 million  
6 dollars of my money.

7 Q. And have you -- did you have the time --

8 A. Time, I would -- I could find time. But money, it was too  
9 much risk to my family. I have three children at the time in  
10 colleges and some of them still studying, so I will not be  
11 able to find the funds.

12 Q. Mr. Bobel, by the way, how many employees does Neptun  
13 have?

14 A. Right now?

15 Q. Yes.

16 A. About 40 employees in the United States. About 300 in  
17 China.

18 Q. And you're the head honcho?

19 A. Yeah.

20 Q. Now, sir, tell -- Now, tell the jury about your  
21 discussions with Acacia that led up to the agreement that you  
22 reached with Acacia. What did you do, how did you satisfy  
23 yourselves -- yourself that I want to be a partner with Acacia  
24 to enforce my patent?

25 A. Well, the first -- and I called the company. I asked how

1 they operate and they explained to me, so I was very pleased  
2 about that. And then I was turned into a -- somebody who was  
3 an engineer in the company who looks at the patents and we  
4 have a couple of phone call conversations and that person said  
5 that he will be actually leaving Acacia. So, I was not happy  
6 about that. And I said to myself --

7 Q. Hold on. Excuse me. Hold on one second.

8 (Phone ringing.)

9 MR. ROUTH: I apologize, Your Honor. This was turned  
10 off and I don't know how it got back on. I will be taking  
11 care of that right now.

12 BY MR. SUDER:

13 Q. So, you contacted Acacia. What did you tell them the  
14 first time you called them. What did you tell them?

15 A. I tell them I have a patent, the '529 patent which is  
16 technology I believe is unique, power actual, and widely used  
17 and I have some companies which infringe, so I would like to  
18 perhaps exercise some litigation and --

19 Q. Did you discuss with them what would be involved and how  
20 this would work?

21 A. Yes, we did. In general, before giving -- it was a  
22 general description of how they operate and I learn they  
23 found -- provide funds for the litigation and they split 50/50  
24 the proceeds, so it was very satisfactory to me in view of the  
25 fact that I was very busy and I will not put any of my own

1 funds to do that.

2 Q. What did you read and understand about Acacia that made  
3 you want to be their partner?

4 A. Well, I -- the article in Forbes describes very favorably  
5 the company and something which to the extent it shows hope  
6 for the small inventors to take on big guys that basically  
7 entitles into their dream -- into this article, which very  
8 good -- fits me and I actually was looking for it.

9 Q. So, you understood from reading the article that Acacia  
10 helps people like you take on big companies to help enforce  
11 their product?

12 A. That's right.

13 MR. SUDER: I'm sorry?

14 MR. ROUTH: No. I'm sorry. I -- I should have  
15 objected.

16 BY MR. SUDER:

17 Q. Now, sir, did you enter into an agreement with Acacia?

18 A. Yes, I did.

19 Q. Okay. And when you first entered into that agreement, did  
20 it give Acacia the option to study your patent and you to  
21 study them and learn more about them?

22 A. That's natural, yes.

23 Q. Okay. And were you satisfied at the time that Acacia was  
24 qualified to understand your technology and be your partner?

25 A. No, it wasn't. As I said, after the conversation, phone



1 conversation with the engineer who was supposed to resign from  
2 the company --

3 Q. Again, Mr. Bobel, I'm sorry. You are talking too fast.  
4 You spoke to an engineer there and what?

5 A. And he said that he would be resigning from his job as  
6 engineer and -- and I felt they will not have another person  
7 to be able to understand invention, to take care of this  
8 properly, so I sent a short note of resignation, cancellation  
9 of the agreement.

10 Q. Did you also call Acacia and tell them?

11 A. Yes, I did.

12 MR. SUDER: May I approach, Your Honor?

13 THE COURT: Yes.

14 BY MR. SUDER:

15 Q. Let me show you what's been marked as Plaintiff's  
16 Exhibit 81 and ask if you can simply identify that document  
17 for the record?

18 A. It's a letter from me, June 3rd, 2008, addressed to  
19 Dooyoung Lee, executive vice-president.

20 Q. Don't read the letter. Thank you. This is a letter that  
21 you wrote to Acacia on June 3rd, 2008. And did you tele --  
22 fax it?

23 A. Yes.

24 Q. Okay.

25 MR. SUDER: Your Honor, we would offer Plaintiff's

1 Exhibit 81 into evidence at this time.

2 MR. ROUTH: No objection.

3 THE COURT: It will be admitted.

4 (Admitted in Evidence as Plaintiff's Exhibit 81.

5 BY MR. SUDER:

6 Q. So, on June 3rd, 2008, excuse me, this letter is to inform  
7 you that I wish to cancel the exclusive license agreement  
8 dated May 7th, 2008, a copy attached though this letter. And  
9 it's signed by you, correct?

10 A. Yes.

11 Q. Now, let me show you what's been marked as Plaintiff's  
12 Exhibit 82.

13 MR. SUDER: May I approach, Your Honor?

14 BY MR. SUDER:

15 Q. And would you just simply identify that for the record,  
16 please?

17 A. This letter is from Acacia to me dated June 4th, 2008.

18 Q. And is it Acacia telling you that they're going to cancel  
19 the agreement also?

20 A. Yes.

21 MR. SUDER: Your Honor, I believe this is already a  
22 Joint Exhibit, but this is a different copy from Mr. Bobel's  
23 files so we will offer Plaintiff's Exhibit 82 into evidence.

24 MR. ROUTH: I don't know where it --

25 MR. SUDER: Well it has a LBC production note so --

1 MR. ROUTH: As do the ones from Acacia.

2 MR. SUDER: Your Honor, we would offer this into  
3 evidence.

4 MR. ROUTH: No objection.

5 THE COURT: It will be admitted.

6 (Admitted in Evidence as Plaintiff's Exhibit 82.

7 BY MR. SUDER:

8 Q. So, the day after you wrote you receive the letter from  
9 Acacia?

10 A. Yes, sir.

11 Q. Did you hear Mr. Routh in opening statement talk about  
12 this letter as if Acacia had cancelled the agreement because  
13 your patent was unacceptable?

14 A. Yes, I heard.

15 Q. What was your reaction when you heard that?

16 A. I was upset.

17 Q. Why?

18 A. Because I knew that I cancel it first and the fact that he  
19 picked the words patent unacceptable from this --

20 Q. Do you know if Mr. Dooyoung Lee was just following the  
21 language of the agreement?

22 A. That's right.

23 Q. But you initiated this because the engineer you were  
24 working with was leaving?

25 A. That's right.

1                   MR. SUDER: May I publish this?

2   BY MR. SUDER:

3   Q. Now -- did you come to learn later that Acacia hired a new  
4   engineer?

5   A. That's right.

6   Q. Is that a gentleman by the name of Fahem?

7   A. Yes.

8   Q. Did you speak with Mr. Fahem?

9   A. Yes. Many times.

10   Q. Did you satisfy yourself that he had a sufficient  
11   understanding of your patent and your technology?

12   A. Yes.

13   Q. And did I then decide to enter into an agreement with  
14   Acacia?

15   A. Yes. After Acacia proposed a new agreement copy, yes, we  
16   did.

17   Q. And when you signed the agreement with Acacia, did you  
18   sell them the patent?

19   A. No. Spelled out only license.

20   Q. And what rights did you give Acacia?

21   A. Right to litigate.

22   Q. On your behalf?

23   A. On my behalf.

24   Q. And you two were partners and share?

25   A. Yes.

1 Q. 50/50, I believe you said.

2 A. 50/50, yes.

3 Q. Are you pleased with your decision to partner with Acacia?

4 A. Yes, I'm very pleased and if I may add, watching the video  
5 on opening -- before the opening statements, I actually  
6 noticed that this is a right of the inventors to hire others  
7 to litigation on their behalf.

8 Q. Now, let me offer you Plaintiff's Exhibit 5 and -- I mean  
9 ask you to identify it. Is this a copy of the license  
10 agreement that lighting ballasts entered into with G.E. and to  
11 which you share Mr. The royalties?

12 A. Yes.

13 MR. SUDER: Your Honor, we would offer Plaintiff's  
14 Exhibit 5 into evidence at this time.

15 MR. ROUTH: No objection, Your Honor.

16 THE COURT: It will be admitted.

17 (Admitted in Evidence as Plaintiff's Exhibit 5.

18 BY MR. SUDER:

19 Q. And in this agreement G.E. has agreed to pay you a --  
20 agreed to pay lighting ballasts in your behalf a 7.5% royalty?

21 A. Yes.

22 Q. Until the patent expires?

23 A. Yes.

24 MR. SUDER: I'm going to publish this. May I borrow  
25 your stapler first.

1 MR. ROUTH: What was the number again.

2 MR. SUDER: Plaintiff's Exhibit 5.

3 MR. SUDER: May I publish this, Your Honor?

4 BY MR. SUDER:

5 Q. In addition to G.E., you understand that lighting ballast  
6 is part of Acacia?

7 A. Yes.

8 Q. And that's the company that's bringing this on your  
9 behalf?

10 A. That's right.

11 Q. And you understand in addition that General Electric, they  
12 were able to help secure a license with you with Phillips?

13 A. That's right.

14 Q. And Fullem?

15 A. Yes.

16 Q. So right now, we have General Electric that's respecting  
17 your patent?

18 A. That's right.

19 Q. Does Phillips have a license?

20 A. Yes.

21 Q. And Fullem?

22 A. Yes.

23 Q. And Sylvania?

24 A. And Sylvania. If I can say, that brings the largest  
25 lighting world, lighting companies which actually have

1 Q. You did.

2 A. Yes.

3 Q. All right. And on the other three, G.E., Fullem, and  
4 Phillips, a lawyer on your behalf sent letters threatening  
5 litigation. Is that correct?

6 MR. SUDER: Objection, Your Honor. The documents  
7 themselves will speak to whether that's a threat of  
8 litigation.

9 A. No. No.

10 THE COURT: Overruled.

11 BY MR. ROUTH:

12 Q. When you are saying no, you are saying you didn't threaten  
13 litigation?

14 A. I sent a letter myself to G.E.

15 Q. Either you or a lawyer our behalf sent letters to each of  
16 those licensees threatening litigation, didn't you?

17 A. No. I didn't threaten litigation. I invite them to  
18 license.

19 Q. We'll look at each of the three -- each of those four  
20 letters. But each of them says that if a license --

21 THE COURT: Well, he -- he's described his -- his  
22 characterization of the document, so instead of looking at  
23 those letters and -- in the future to talk about, let's go  
24 ahead and show the letters and get to it.

25 MR. ROUTH: I'm trying to simplify things. We'll go

1 through the letters one by one.

2 **BY MR. ROUTH:**

3 Q. First, let me ask, in 2005, 2006, that time frame, you  
4 sent roughly thirty letters to different companies telling  
5 them they should take a license or if they didn't a judge and  
6 jury may award treble damages against them in court. Is that  
7 fair to stay?

8 A. That's correct.

9 Q. Now, the licenses we're talking about, the four licenses  
10 we are talking about, the G.E. license you said several times  
11 was the 7.50% royalty. Is that right?

12 A. Yes.

13 Q. Do you know though that there's an attachment to the G.E.  
14 license, Exhibit A, which lists the license's products. Are  
15 you aware of that?

16 A. I didn't study that.

17 Q. This is -- this is Plaintiff's Exhibit 5 that we just put  
18 into evidence and published to the jury. There are only  
19 twelve products that are licensed products under the G.E.  
20 license, aren't there?

21 A. I don't remember how many.

22 Q. The release that's given in that agreement that you talked  
23 about on direct, that release releases G.E. for all past and  
24 future liabilities and gives them a complete license for all  
25 their products, doesn't it?



1 A. For those which have been infringing, that's right.

2 Q. Do you know how much has been paid by G.E. in the two  
3 years approximately that it's had a license with -- with you  
4 or with LBC?

5 A. At this moment, I don't remember.

6 Q. Approximately \$150,000, isn't it?

7 A. I don't -- I can't tell.

8 Q. Do you know if that's roughly the order of magnitude of  
9 G.E.'s payments?

10 A. I don't -- I can't -- I don't remember.

11 Q. Do you know how money you've received from LBC as your  
12 share of G.E.'s payments?

13 A. I don't remember, too, now..

14 Q. Do you remember the amount that Fullem paid under its  
15 license agreement with you?

16 A. No, I don't.

17 Q. Would it sound right to you if I told you it was \$155,000?

18 A. Maybe. I don't know. I don't remember.

19 Q. And do you know -- would you agree with me that's --  
20 \$155,000 is a lot less than the cost of a litigation like this  
21 for a defendant, isn't it?

22 A. Yes.

23 Q. And do you know how much the Phillips license was?

24 A. I know what I received, yes.

25 Q. What did you receive?

1 said inoperable to effectively initiate installation and  
2 effectively stop the installations of the converter. That  
3 automatically means that the converter will not draw power.

4 Q. Where are you reading from, sir?

5 A. Claim 1.

6 Q. You do believe claim 1 and that language you just read --

7 A. If you put it to sleep, it will not draw power.

8 **THE COURT:** Be careful not to talk over each other.

9 **THE WITNESS:** I'm sorry.

10 **MR. ROUTH:** And I apologize. I think I did that  
11 time. Thank you.

12 **BY MR. ROUTH:**

13 Q. I'm now looking at a different portion of column 11 that  
14 Mr. Suder asked you about, this portion that talks about it  
15 will be understood that all other types of oscillator  
16 circuits, either -- driven, half bridge, can be supported  
17 with your invention. You testified to that earlier. That's  
18 also something that's in the specification. Is that correct?

19 A. Not really. Not necessarily. This is a specification.

20 Q. I'm sorry. This is --

21 A. This part of the specification. This is a part of the  
22 specification.

23 Q. When you talk about a driven circuit here, you understand  
24 and I think agree that you can have a driven circuit that's  
25 driven by an integrated circuit and you can have an -- or an

1 IC. You can a driven circuit that's drive by traditional  
2 discrete components, too, as well, can't you?

3 A. Driven in this sense means that its signal is being  
4 provided to the two transistors of the converter from a device  
5 which creates the driving signal to the gates or bases of the  
6 transistor. It can be IC, it can be discrete, yes.

7 Q. So this doesn't necessarily mean integrated circuit or not  
8 integrated circuit. It could mean any number of things.

9 A. No, not necessarily. It's limited things. Driven means  
10 driven. Self-oscillatory is self-oscillatory.

11 Q. At the time you arrived at the invention for the '529  
12 patent, you weren't aware of or couldn't find any ICs that  
13 could be used in controlling ballasts?

14 A. Not the way I wanted to.

15 Q. At your deposition, again, your told us that at the time  
16 of the invention there were no Phillips ICs, no Phillip -- no  
17 ST micro ICs, no international rectifier ICs on the market to  
18 perform the function of controlling ballasts. Do you remember  
19 that?

20 A. The way I wanted, yes.

21 Q. Were there integrated circuits from Phillips or ST micro  
22 or IR that could control the performance of a ballast in some  
23 other way that you were aware of?

24 A. Well, they've been used for power supplies, switch and  
25 power supplies, PWM type, post-modulation ICs which have been

1 used, but not for the ballasts specifically.

2 Q. Okay. Thank you. I want to go back to the Robertson  
3 agreement that you talked about. I think in your binder the  
4 first Robertson agreement behind tab 12.

5 A. First tab 12.

6 Q. It's Joint Exhibit 20.

7 A. Okay.

8 Q. I apologize, Mr. Bobel. I misspoke. 1992 Robertson  
9 agreement is behind tab 11.

10 A. Okay.

11 Q. Do you recognize the document that's marked as Joint  
12 Exhibit 22 and behind tab 11 as being the 1992 Robertson  
13 agreement you entered into?

14 A. Yes.

15 Q. And you entered into this agreement in July of 1992?

16 A. Yes.

17 Q. That's about a month after you left Motorola?

18 A. Yes.

19 Q. I would ask you to go to the second page. Now, the second  
20 page of the agreement, it's page 2, we can zoom in enough, I  
21 think -- I think we must have the wrong agreement. I  
22 apologize. This is -- this is an agreement that you have of  
23 royalty terms on page 2. It's Joint Exhibit 22? Okay. Could  
24 you is zoom in on that? So, on page 2 of the 1992 agreement,  
25 that sets forth the royalty terms you enter into with

1 Robertson. Is that correct?

2 A. Yes.

3 Q. In 1992, at this time, July of 1992, you hadn't even  
4 conceived of the invention of the '529 patent. Is that  
5 correct?

6 A. No.

7 Q. Okay. So, the royalty terms that Robertson is giving you  
8 in this agreement have nothing to do with the '529 agreement.  
9 Isn't that right? And what Robertson is agreeing to pay you in  
10 this is 6% royalty if they have a profit margin of more than  
11 30% and then a 5.5% for a lower profit margin on their product  
12 and it goes all the way down to a 3% royalty if they have a  
13 profit margin of less than 15%. Do you see that?

14 A. I will correct it, gross profit margin.

15 Q. Gross profit margin.

16 A. According to accounting procedure.

17 Q. Depending how large the gross profit margin is you get a  
18 different royalty ranging from 3 to 6%?

19 A. Not net. Gross.

20 Q. Again, nothing to do with the '529 patent, correct?

21 A. Correct.

22 Q. Let me go over to page 3 and I want to focus in on the  
23 other provisions right under the -- provision 5 at the top.

24 And the first paragraph -- go up a little bit -- we have a  
25 problem. You're -- I think you're on page 4. Page 3 should

**Trial Transcript, Volume D, Dated June 14, 2011**

1 Q. (By MR. ROUTH) Mr. Bobel, let me try to take a different  
2 approach to the last question I asked you. Is it fair to say  
3 that if you had any documents that reflected payments from  
4 Robertson to you since 1999, you would have produced them to  
5 us in this litigation.

6 A. I turned over all my documents to LBC, to my attorneys,  
7 so I don't recall having anymore.

8 Q. Okay. So when you say turned them over, are you talking  
9 to Mr. Suder. Is that correct?

10 A. Yes.

11 Q. And if I found no documents since 1999 from Robertson in  
12 the materials being produced by Mr. Suder, it must mean you  
13 don't have any such documents. Is that fair?

14 A. I don't know. I would say -- I turned over my documents,  
15 so I don't have anymore.

16 Q. Do you have any recollection of royalty payment documents  
17 that you have provided your counsel after 1999 from Robertson?

18 A. It is hard to remember those things.

19 Q. Let me ask you to look behind Tab 15. This is a  
20 Defendant's Exhibit No. 41. Excuse me. I apologize. I  
21 misspoke. I would like you to look behind Tab 14 and this is  
22 a Joint Exhibit No. 19 so it can be brought up.

23 Okay. Joint Exhibit No. 19 is a letter from you to folks  
24 at Robertson, is it not?

25 A. Yes.

1 Q. Okay. And this is from October 3rd, 2008?

2 A. Yes. November 21, actually.

3 MR. ROUTH: I am actually looking for a different  
4 letter, Tom. I apologize.

5 Q. (BY MR. ROUTH) The one I have is behind Tab 14 of the  
6 folder. You have behind Tab 14 your folder, Mr. Bobel, an  
7 October 3rd, 2008 letter?

8 A. I don't see it.

9 Q. Yes.

10 A. I don't see it.

11 Q. You don't. Let me see if I can hand it up to you. This  
12 is a joint exhibit so it has already been admitted. I  
13 apologize. It is Joint Exhibit No. 19. No, this is not it.  
14 This is the November letter. Mr. Bobel, the document you have  
15 behind Tab 14, it is -- is it a November 2008 letter?

16 A. November 21.

17 Q. Does it have behind it an October 3rd, 2008 letter?

18 A. No. No.

19 Q. All right. Let's back up and try it again. Joint  
20 Exhibit No. 19 behind Tab 14 of your binder is a November  
21 21st, 2008 letter. Is that correct?

22 A. Yes.

23 Q. And this letter is from you to Robertson saying that by  
24 letter of October 3, 2008 you notified Robertson that it was  
25 in default on its agreement with you. Do you see that?



1 A. Yes.

2 Q. And you terminated the agreement. Is that correct?

3 A. Yes.

4 Q. And you were saying it was in default because it hadn't  
5 made payments to you Robertson had made no payments to you in  
6 a long time. Is that correct?

7 A. Correct.

8 Q. But you understood that Robertson was continuing to make  
9 ballasts that used the '529 Patent. Is that your  
10 understanding?

11 A. I believe, yes.

12 Q. Now I want to come back to Tab 13, which is Joint Exhibit  
13 No. 18. This is the March 1999 letter from Robertson to you.

14 A. Okay.

15 Q. I want to actually get you to focus on a few things here,  
16 and the first part the first paragraph of the letter. I think  
17 Mr. Suder showed you this on direct. It says Robertson no  
18 longer desires to maintain the exclusive rights to the patent  
19 matters defined at Paragraph 101 of your 1994 agreement with  
20 them. Is that right?

21 A. Yes.

22 Q. And then the beginning of the second paragraph the first  
23 sentence there says, "Over the past year, Robertson has been  
24 looking for new ways to grow and change with the times." Do  
25 you recall that?

1 A. That I see this?

2 Q. Yes.

3 A. I see that, yes.

4 Q. This is what Robertson told you when they converted their  
5 exclusive license to a nonexclusive license in 1999.

6 A. I see that, but I don't confirm what he is saying is  
7 true.

8 Q. Okay. It is what Robertson told you at the time, isn't  
9 it?

10 A. No. They told me -- This is what is written to me, but I  
11 don't believe it is true.

12 Q. Okay. The next sentence says, "Robertson is determined  
13 that the services you agreed to provide to Robertson in  
14 consideration for the exclusive rights to the patent matter  
15 are no longer needed." And that is something they  
16 communicated to you at the time in 1999, isn't it?

17 A. Yeah, in this letter, yeah.

18 Q. Did they tell you orally that your services were needed?

19 A. No. They say exactly what they say, yes.

20 Q. Okay. I was getting the impression you thought this  
21 letter was not stating that fact.

22 A. I am getting the impression from you that they told me  
23 something other than this letter.

24 Q. I just want to make sure what is in the letter.

25 The last sentence of that paragraph says, "In addition,

1 Q. To step away from Robertson, I understand that other than  
2 the Robertson agreement, Mr. Suder asked you about two other  
3 license agreements from the '90s early 2000 time frame. One  
4 was the LEB agreement. Right?

5 A. Yes.

6 Q. The LEB agreement was with a company in China. Yes?

7 A. Yes.

8 Q. And that was an agreement that referenced the '529 Patent  
9 but they never made any products under it. Is that correct?

10 A. Correct.

11 Q. In fact, you had an exclusive license with Robertson at  
12 the time of the LEB agreement in 1997. You couldn't license  
13 the '529 Patent to LEB to make and sell products, could you?

14 A. I could to China market. License agreements were signed  
15 for the product to be made for China market.

16 Q. But you understand, Mr. Bobel, that making and selling a  
17 product in China can't possibly infringe a U.S. patent, can  
18 it?

19 A. True. But these people have been very interested in my  
20 technology, and they actually enter into license agreement  
21 even though there is a U.S. patent.

22 Q. But the patent licensed with LEB excluded all of North  
23 America and for most patents South America as well, didn't it?

24 A. I don't recall. Whatever it was, but it was a license  
25 agreement for sales in Asia.

1 Q. And you never made any money from that agreement relating  
2 to products made with the '529 Patent. Is that correct?

3 A. Correct.

4 Q. Similarly with TCP, you had two agreements in the late  
5 1990s and a couple of agreements in 2002, 2004, but they also  
6 made no products that practiced to '529 Patent. Correct?

7 A. No.

8 Q. So you never made any money for products that were sold  
9 using the '529 Patent. Is that correct?

10 A. I made some money on a cancellation of the LEB agreement.

11 Q. Okay.

12 A. Only.

13 Q. Basically in the first ten years of the '529 Patent, from  
14 '95 to 2005, you made revenues on the '529 Patent from  
15 Robertson. Is that correct?

16 A. Yes.

17 Q. And that stream of income from the '529 Patent ended when  
18 Robertson terminated or changed the exclusive to a  
19 nonexclusive license and stopped making royalty payments to  
20 you. Isn't that right? In 1999?

21 A. It didn't happen in '99, but I don't know exactly. I  
22 cannot recall.

23 MR. ROUTH: If I may approach, I want to hand the  
24 witness back what was marked as Plaintiff's Exhibit No. 80.

25 Q. (BY MR. ROUTH) This is the Robertson ballast that you

1 looked at earlier?

2 A. Yes.

3 Q. Can you tell from looking at that when that ballast was  
4 manufactured and sold?

5 A. When?

6 Q. Yeah. Roughly. Is it a ballast from the '90s from when  
7 you worked at Robertson?

8 A. Yes. It was '90s. I didn't work there right away.  
9 Yeah, it is from the '90s.

10 Q. I am going to set the first binder I gave you aside  
11 because I am moving into the second binder.

12 I want to ask you some questions about the Osram Sylvania  
13 agreement. Osram Sylvania, the company, you have had a  
14 business relationship with for some time. Is that correct?

15 A. Yes.

16 Q. You have been selling light fixtures, CFLs and things to  
17 them going back -- When did you start your relationship with  
18 Osram Sylvania?

19 A. Perhaps four years ago.

20 Q. Four years ago?

21 A. About.

22 Q. Let me ask you to turn to Tab 36 of the binder. It is  
23 Tab 36. It is actually Joint Exhibit No. 39. This joint  
24 exhibit has a number of pieces of correspondence in it. I am  
25 going to ask you to look at the last of the pieces of

1 did he not?

2 A. No, nobody reached me during this year between December  
3 or whatever the time frame until October 2006.

4 Q. I apologize if I am not clear. What I was trying to say  
5 is after trying to reach your attorneys earlier in the year,  
6 October, Mr. Patterson sent you this email Joint Exhibit No.  
7 60?

8 MR. SUDER: Your Honor, my objection, for the  
9 record, is we don't know what Mr. Patterson did. He doesn't  
10 know what Mr. Patterson did. And he is simply arguing. That  
11 is improper. Mr. Patterson will be here in the morning and he  
12 can testify as to what he did, so I think this is improper of  
13 this witness.

14 THE COURT: Sustained.

15 Q. (BY MR. ROUTH) In his email to you, Mr. Patterson told  
16 you that Universal had concluded that your patent was invalid.  
17 Isn't that correct?

18 A. Yes. They said in the letter.

19 Q. It says it twice. But let's look at the second to the  
20 last paragraph, and he says, "Regarding the '529 Patent,  
21 Universal has concluded that all claims you have previously  
22 asserted against Universal products are invalid." Is that  
23 correct?

24 A. It says so, yes.

25 Q. So you said on direct you couldn't figure out who had

1 declared invalid. He told you that is was Universal who  
2 reached that conclusion. Is that correct?

3 A. Universal has concluded, but Universal is not the body to  
4 trust -- to make the patents invalid.

5 Q. But they had reached the conclusion for themselves that  
6 it was invalid. He also told you they didn't infringe your  
7 patent. Isn't that correct?

8 A. They say so? Can you point that?

9 Q. Yes. If you look up at the third paragraph, the one that  
10 begins with the word "Previously."

11 A. Yes.

12 Q. The second to the last sentence, the one that reads, "As  
13 a result, Universal concluded it was not infringing the  
14 asserted claims of the '529 Patent." Do you see that?

15 A. Yes, I see it.

16 Q. Now, did you respond to Mr. Patterson's email?

17 A. No, I didn't. It came late.

18 Q. When did you first contact Acacia about partnering with  
19 them to bring a lawsuit?

20 A. We can go back. I don't remember the dates at the  
21 moment. We just talked about it.

22 Q. Let me ask you to look behind Tab 47 and see if you find  
23 there Joint Exhibit No. 198.

24 A. What exhibit number?

25 Q. It is Tab 47, Joint Exhibit No. 198.

1 A. You said 37? I don't have that.

2 Q. I apologize, Mr. Bobel. Let me walk up here and see if I  
3 can straighten this out.

4 A. Yeah, it is here. I look at this.

5 Q. You are looking at the deposition exhibit sticker. There  
6 are two exhibit stickers on there. I was referring to the  
7 trial exhibit sticker and it is Joint Exhibit No. 198. It is  
8 a June 4th, 2008 letter to you. Is that correct?

9 A. Yes.

10 Q. And so at this point, June 4th, 2008, Acacia had received  
11 your patents, done what it refers to here as its due  
12 diligence, and my question is how long before this did you  
13 actually contact them?

14 A. Not long; maybe a month.

15 Q. And in the letter that is here it says that Acacia found  
16 your patents to be not acceptable. Is that correct?

17 A. Yeah; standard letter.

18 Q. We asked LBC what that meant and they told us they didn't  
19 know.

20 A. I don't know either.

21 Q. Do you know if LBC ever contacted Universal and made any  
22 effort to discuss this matter before brining the lawsuit we  
23 are here for?

24 A. I don't know.

25 MR. ROUTH: I have no further questions.



1 that is relevant to you and important in your analysis?

2 A. Yes, I think that is relevant. I mean, ULT are showing  
3 that they are aware of it, and if they have cited it ten times  
4 that is important, yes.

5 Q. Is that a factor that tips in the favor of Mr. Bobel?

6 A. I would think so. Sure.

7 Q. Why is that?

8 A. Well, again, if you are trying to license something and  
9 the Bobel patent is sitting out there, you have got to do  
10 something with it. You either license it from Mr. Bobel or  
11 you find a way to not infringe the patent. And the more often  
12 that you are encountering it the more problematic it becomes.  
13 So yes, I think that is an indication of importance.

14 Q. Are you aware of any other companies that have cited  
15 Mr. Bobel's patent?

16 A. Yes. I think a couple of the other players that you  
17 mentioned have cited it. I don't recall specifically who it  
18 was, but I recall there were a couple.

19 Q. Has GE cited the patent?

20 A. I think they have, yes.

21 Q. So they have cited the patent in their patents?

22 A. Yes.

23 Q. And have you heard of Lutron?

24 A. Yes.

25 Q. Have they cited Mr. Bobel's patent?

1 A. I believe so.

2 Q. And how about Phillips?

3 A. I believe they did as well.

4 Q. And Sylvania?

5 A. I believe they did as well.

6 Q. How about Motorola?

7 A. They, too.

8 Q. So all these companies have cited Mr. Bobel's patent in  
9 their patents to the United States Patent Office?

10 A. That is my understanding, yes.

11 Q. And is that a factor that you consider and that you  
12 consider would tip the scale in the favor of Mr. Bobel in this  
13 hypothetical negotiation?

14 A. Well, certainly it favors towards Mr. Bobel. There is no  
15 doubt about that.

16 Q. Now, sir, at this negotiation in 1999, I mean in 2001,  
17 did you see documents that would suggest to you that ULT's  
18 engineers were in the years prior trying to find ways to avoid  
19 infringing Mr. Bobel's patent, would that be important to you?

20 A. Yes.

21 Q. Let me show you Joint Exhibit No. 219. This is a  
22 document from 1996. At the hypothetical negotiation, would  
23 Mr. Bobel have known this?

24 A. Yes. As we talked about earlier that in the hypothetical  
25 negotiation everybody knows everything. So yes, in that

1 negotiation Mr. Bobel would know that at least as of the time  
2 of this memo was issued that ULT or MagneTek at that time was  
3 concerned about Mr. Bobel's patents, at least as what is  
4 stated here.

5 Q. In 1999, if engineers from ULT when they were MagneTek  
6 thought that Bobel's infringement could be avoided by doing it  
7 a certain way but they couldn't do it that way, would  
8 Mr. Bobel know that at the negotiation?

9 A. Yes. Again, that would all be part of this concept of  
10 book of wisdom. Mr. Bobel would know that ULT or MagneTek had  
11 tried some methodology of designing around the patent and had  
12 been unable to do so at that point in time.

13 Q. By the way, have you participated in negotiation of  
14 licenses?

15 A. Yes.

16 Q. Lots of times?

17 A. Sometimes, yeah.

18 Q. Okay. And so if Mr. Bobel had asked you to be there with  
19 him, would you be arguing this fact in his favor?

20 A. I would. Sure.

21 Q. Okay. And if the engineers at MagneTek who went to  
22 Universal felt that doing things a certain way would infringe  
23 Mr. Bobel's patent, and it turns out that that is exactly what  
24 they are doing, would that be something that would be relevant  
25 to you in arguing or in negotiating on behalf of Mr. Bobel?

1 A. \$6,600,000.

2 Q. Would \$6,650,000 be a more rounding number?

3 A. Okay.

4 Q. And Group 4?

5 A. \$545,000.

6 Q. And CFL Group 1?

7 A. \$65,350,000.

8 Q. And CFL Group 2?

9 A. \$5,500,000.

10 Q. And the last group?

11 A. \$8,400,000.

12 Q. \$8,400,000 for a grand total?

13 A. \$208,200,000.

14 Q. \$208,200,000. And how many total units, how many  
15 separate ballasts has Universal sold since February 23, 2009  
16 [sic] that you assume are infringing the '529 Patent?

17 A. 18,713,693.

18 Q. And is this, then, the royalty base, Mr. Gallagher, to  
19 which you apply the royalty rate?

20 A. Yes.

21 Q. Okay.

22 MR. SUDER: Your Honor, I would mark this  
23 demonstrative now as Plaintiff Exhibit No. 85 and offer it  
24 into evidence, subject, of course, to the Court's ruling that  
25 it indicated as to Rule 104(b).

1 THE COURT: Okay. With that understanding, it will  
2 be admitted. That is No. 85.

3 Q. (BY MR. SUDER) Now, Mr. Gallagher, now that you have  
4 this \$208 million of accused ballasts that we assert  
5 infringed, do you then apply the math to that number?

6 A. Yes.

7 Q. So if you take \$208 million --

8 A. \$208 million times 200,000.

9 Q. And if you apply it times the four and a half percent,  
10 what would that number be?

11 A. \$9,370,000.

12 Q. \$9,370,000.

13 A. Right.

14 Q. And at six and a half percent, what would that rate be?

15 A. It would be -- I didn't calculate that one. I am sorry.  
16 I can give you six percent.

17 Q. Well, you know, I happen to have a calculator handy. Can  
18 you multiply \$208,200,000 times six and a half percent?

19 A. Six percent, did you say?

20 Q. Six and a half percent.

21 A. \$13,533,000.

22 Q. And I guess at the end of the day, sir, it is up for the  
23 jury to decide whatever rate it wants to apply. It can go  
24 less. It can go more. That is up to this jury, isn't it?

25 A. Yes.

1 Q. But in your opinion, considering everything, it is your  
2 opinion that this would be something towards this higher end,  
3 more like close to the six and a half percent?

4 A. I think that is right, yes.

5 Q. And sir, if you were required and I said, "All right,  
6 Mr. Gallagher, pick a number." We are at a negotiation. So  
7 at the end of the negotiation there isn't going to be a range,  
8 would there?

9 MR. ROUTH: Judge, this is an opinion we haven't  
10 heard and I will hear it for the first time right now. I  
11 object.

12 THE COURT: Overruled.

13 Q. (BY MR. SUDER) If you had to pick a number, based on  
14 your experience where this hypothetical negotiation would end  
15 up, can you pick a number?

16 A. I would probably go six percent. Six percent would be  
17 less than Mr. Bobel would like. Six percent would be more  
18 than ULT would like to pay. So it is kind of a middle ground  
19 to some degree.

20 Q. What is six percent? What would the six percent  
21 calculation be? You have a calculator.

22 A. I wrote that one down. That would be \$12,943,000.

23 MR. SUDER: I will mark this chart as Plaintiff's  
24 Exhibit No. 86 and offer that into evidence at this time, Your  
25 Honor, subject to, of course, your 104(b) ruling.

**Trial Transcript, Volume A, Dated June 15, 2011**

1 relates to the letter that he wrote to Mr. Bobel.

2 MR. ROUTH: Your Honor --

3 THE COURT: We, but if he -- if, for instance, he  
4 communicated with his client --

5 MR. SUDER: That's -- I agree. I will not ask -- I  
6 will not ask -- I can ask him if he communicated. I do not  
7 want to know and I respect the privilege on what they may have  
8 talked about.

9 MR. ROUTH: Your Honor, what he did reflects or  
10 what -- or potentially, what he and his client talked about.

11 THE COURT: I will sustain the objection.

12 BY MR. SUDER:

13 Q. Now, sir, the only basis that you give in your letter  
14 after your thorough investigation is that the patent is  
15 invalid, right?

16 A. It was an e-mail. I think we -- I think -- I believe I  
17 cited section 102 of the Patent Act.

18 Q. Yes. Section 102 of the Patent Act, this jury, when they  
19 get their jury charge will see, is that there's -- that the  
20 patent is invalid, because there's something that has each and  
21 every element of it beforehand, right?

22 A. It means that -- that Mr. Bobel really didn't invent  
23 anything. That's what it means.

24 Q. Correct. Correct. But that's the only thing you say in  
25 the letter.



1 A. That's -- that's the statute that I cite and the only  
2 statute I believe I cite in my e-mail is section 102.

3 Q. That's not what I asked you, Mr. Patterson.

4 A. I'm sorry.

5 Q. How many reasons did you give Mr. Bobel in your e-mail as  
6 to why -- as a basis that there would -- that Universal would  
7 not sit down and talk to him about a license?

8 A. Just that it would -- just that his patent was invalid  
9 under section 102.

10 Q. Okay. And did you tell him why?

11 A. That it was invalid under section 102.

12 Q. That's right. Did you tell him why it was invalid under  
13 section 102?

14 A. No. It's self-explanatory I think.

15 Q. It is?

16 A. Yes.

17 Q. So everyone here would know what that means?

18 A. No, a -- a patent owner would probably know what that  
19 means.

20 Q. You didn't write to Mr. Bobel's attorney. You wrote to  
21 Mr. Bobel after you had thoroughly investigated you have  
22 concluded it was not infringing the patent and one of the  
23 basis are that the claims are invalid under section 102.  
24 That's all you say, right?

25 A. That's all I said about the invalidity, that's correct.

1 Q. That's right. You didn't say anything about  
2 noninfringement, did you?

3 A. I believe I say somewhere that you can't infringe an  
4 invalid patent.

5 Q. Did you tell him that we -- we don't infringe because we  
6 use an IC. Did you tell him that?

7 A. No.

8 Q. Did you even think of that issue at the time you wrote  
9 this e-mail?

10 A. I don't recall.

11 Q. You don't recall. Okay. Did you look or attempt to  
12 construe or apply the claims and what they may mean and their  
13 means-plus-function or anything of that sort? Did you do that  
14 analysis?

15 A. Yes, we did.

16 Q. Did you?

17 A. Yes.

18 Q. What did you do?

19 A. We ordered the history of the prosecution of the patent  
20 application in the U.S. Patent & Trademark Office. We read  
21 it. We read the patent. We read the claims. We interpreted  
22 the claims. We searched for prior art that would be relevant  
23 to the claims as we interpreted them. And then we applied  
24 that prior art to the claims that Mr. Bobel alleged were  
25 infringed by Universal's products and then I reached a

**Trial Transcript, Volume B, Dated June 15, 2011**

1 THE COURT: You may step down, sir. Thank you.

2 MR. SUDER: Thank you.

3 THE COURT: Call your next witness.

4 MR. SUDER: Your Honor, subject to Mr. Hesterman who  
5 is coming on Friday, at this time Plaintiff rests.

6 MR. ROUTH: Your Honor, we would like to make a  
7 motion.

8 THE COURT: Okay. All right. Ladies and gentlemen,  
9 I try not to keep you out of the courtroom for work that we  
10 do. When you are here in the courthouse I want you in the  
11 jury box hearing testimony, otherwise I feel like we are  
12 wasting your time. There are times when that is unavoidable.  
13 This is one of those times.

14 What I think we can do to minimize you just sitting in  
15 the jury room, I think we can go ahead and take our lunch  
16 break now so that you can eat lunch. We are doing it early,  
17 obviously, but I need to take up some matters with the lawyers  
18 outside of your presence, legal matters only. It is not  
19 factual matters, because remember, factual matters are your  
20 province exclusively. Legal matters are my province  
21 exclusively.

22 So why don't we take a break now. Because we are going  
23 to take up some issues, we will to take a little more than an  
24 hour. Let's do an hour and 15 minutes today. So that will  
25 put us starting back approximately at 1:00. So why don't you

1 go ahead and take your lunch break now and we will see you  
2 back -- 2:00. Thank you. I want more time in the courtroom  
3 and less time out of the courtroom, but you caught me, I can't  
4 defy the laws of physics, and so we will start back up at  
5 2:00. We will see you then. Thank you very much.

6 (Whereupon, the jury left the courtroom.)

7 THE COURT: Go ahead.

8 MR. ROUTH: At the close of Plaintiff's case, we  
9 would like to make a motion for judgment in favor of Universal  
10 Lighting. There are four different bases. The first would  
11 encompass the entire case; the other three are partial.

12 The first would be a judgment of non-infringement. Your  
13 Honor, there is -- the testimony and evidence that has been  
14 shown in the trial through the Plaintiff's case shows that  
15 Universal lighting does not sell ballasts that have been  
16 accused in this case that meet the output terminals connected  
17 to the filaments of the gas discharge lamp.

18 I am not going to cite a lot of case law to the Court on  
19 this motion, Your Honor, but there is a case on this that I  
20 think is important for the Court to consider. It is the *Cross*  
21 *Medical products versus Medtronic* case. It has been cited in  
22 some documents including the jury charge, I think; either the  
23 jury charge or maybe one of the motions in reconsideration,  
24 but more recently. It is a 2005 Federal Circuit case. I have  
25 a copy that I could hand up. It is highlighted, and I am

1 happy to give the Court a copy not highlighted if you prefer,  
2 but this is all I have now. Is this something I can pass up?

3 If the Court will allow you, I will give you 30 seconds  
4 on what *Cross Medical* says.

5 *Cross Medical* is a patent case that involves a surgical  
6 devise that is used, I think, to stabilize bones in the spine.  
7 The anchor of the base -- In the claims of the patent it says  
8 the anchor of the base is operatively joined to the spine.  
9 Plaintiff sued. Defendants responded and said, "We make the  
10 device but we don't join it to anybody's spine." A district  
11 court ruled for the plaintiff on this and said, "It makes  
12 sense to me that a device that is meant to go to your spine,  
13 even though the claim language is operatively joined, it  
14 nonetheless infringes if it is capable of operatively to being  
15 joined."

16 The Federal Circuit said no, and it was in part based on  
17 a claim differentiation argument, similar to one in this case.

18 In this case we have very similar language--connected to.  
19 And this case we actually have a stronger record, because we  
20 have not only the use of the "connected to," like the use of  
21 the word "joined" and the fact that somebody else in the *Cross*  
22 *Medical* case the Federal Circuit said, "If anyone infringes  
23 this patent"--and by the way, you don't have to find that  
24 somebody could infringe a patent in order for the patent to  
25 make sense--it said, "If anyone infringes this, it would be a

1 surgeon," Although, in there it is not clear that the surgeon  
2 joins physically the anchor of the device to the spine, but  
3 the Federal Circuit said that is what would need to be done  
4 under that language "joined." And it should be read literally  
5 just like "connected to" should be read literally.

6 In this case, as I think the Court has probably heard  
7 through some of the questioning of experts, in addition to the  
8 fact that the words are "connected to" and "connected to" --  
9 there is nothing in the specification that suggests "connected  
10 to" doesn't mean "connected to."

11 In addition, the other I think it is five or four  
12 independent claims of the patent use the term "connection  
13 for." And "connection for," we would agree would cover a  
14 product that isn't connected to, but is intended to or  
15 designed to be connected to. "Connected to" is distinguished  
16 by claim differentiation from the rest of the independent  
17 claims.

18 And so what you have is a very clear indication from the  
19 claim language, which the Federal Circuit has obviously said  
20 is the most important source of information about how a claim  
21 should be viewed, you have got claim differentiation saying  
22 the words "connected to" are presumed to mean something  
23 different than the words "connection for," if you use  
24 different words, and the "connected to" means as "joined to"  
25 meant in *Cross Medical*, there actually has to be a physical

1 connection.

2 Another piece of information the Court should consider on  
3 this, the prosecution history. The language of Claim 1 as  
4 originally filed was "for connection," just like the rest of  
5 the independent claims. The patentee changed "for connection"  
6 in Claim 1 to "connected to." A conscious decision to change  
7 the language of the claim also reinforces the notion that  
8 "connected to" means something different than "connection  
9 for."

10 "Connected to" has a different meaning and the meaning is  
11 a literal meaning physical connection. When I say physical  
12 connection, I mean through electronic components. You don't  
13 have to actually get the output terminal against the  
14 filaments. You have to connect it electronically. And there  
15 is no electronic connection between any of the products sold  
16 in this case and the products that have been accused of  
17 infringement and any filaments at the time they are  
18 manufactured, sold, or otherwise used by Universal.

19 So you have got strong reasons to read -- And actually  
20 what the Court said before I think is instructive. The  
21 Court's and the parties' claim construction positions have  
22 been "connected to" means "connected to." We don't need to  
23 change the language of that. No one has suggested -- What  
24 they would like to say is no one has suggested "connected to"  
25 means "connected to." That is what everyone has said in this



1 case from the beginning.

2 What we didn't say was, "Oh, by the way, factually you  
3 will find out when we get to trial we don't sell ballasts that  
4 are connected to." That is a factual matter. It is not a  
5 matter of claim construction. Factually, as this case  
6 developed, that position got brought forward, and factually we  
7 have now told the Court through evidence, which would have  
8 been, quite frankly, disputed if we said it in summary  
9 judgment, but we told the Court in evidence we don't make or  
10 sell or use ballasts that are connected to.

11 There is one other issue that has come up in connection  
12 with this matter, and that is testing. I think the plaintiffs  
13 have tried to cover for themselves this hole by eliciting  
14 testimony from their expert Mr. -- Doctor Roberts. I don't  
15 know why I do that. I apologize. It is not conscious.  
16 Doctor Roberts. Doctor Roberts said, "Well, in order to give  
17 government information, in order to do quality control, in  
18 order to do all these things with testing, you would need to  
19 connect the output terminals to filaments of a lamp." The  
20 problem with that is Doctor Roberts didn't provide any  
21 information of who does that, when it was done, or where it  
22 was done. So the record does not provide any basis for saying  
23 anyone at ULT connected filaments from output terminals of the  
24 accused ballasts to filaments of lamps.

25 More importantly, the testing that Doctor Roberts talked

1 about was not testing done on these products. He talked about  
2 testing that would be done for purposes of studying ballasts  
3 and coming up with numbers and reporting and telling the  
4 government, or the public, "Here is how our ballasts perform."  
5 If that were done--actually it is done. I don't mind telling  
6 the Court that that kind of testing is done--it would be done  
7 on a very small set of products, and none of them have been  
8 sold to anybody. So they are not among the 20,000 or so,  
9 18,000 and some units that been accused in this case. They  
10 would be conduct that has not been accused in any of the  
11 expert reports and would lead to no judgment on damages. At  
12 the very least, the Court would need to throw out the damages  
13 claims if, in fact, the notion is that maybe some guy in  
14 Alabama every now and then connects these up to do testing on  
15 a small number of products.

16 So that is the principal basis for our first basis on  
17 non-infringement.

18 We also think the evidence is lacking on control means  
19 and DC blocking means. I won't spend long with the Court,  
20 because part of that has been tied up or has been addressed in  
21 the summary judgment motions, and I don't want to go back over  
22 what we have said there because I understand the Court's  
23 ruling on that.

24 But in particular on blocking means, I think Doctor  
25 Roberts has now stated that in each of the representative ULT

1 products, which would cover all of the products now in the  
2 case, there is at least one DC blocking capacitor that does  
3 not stop the control signal whenever there is a lamp removed  
4 or a defective filament, as the Court has construed that.

5 Now, our view is that that should be a basis for  
6 non-infringement; that it is not -- our understanding of the  
7 Court's prior claim construction is not, to be frank, 100  
8 percent clear on this. That is why we did ask for  
9 reconsideration and clarification. But we understand the  
10 position adopted by the Court in one of its rulings on summary  
11 judgment was the '099 Patent doesn't infringe because it  
12 doesn't have a DC blocking capacitor on each of its output  
13 terminals. If that is required, we don't have a DC blocking  
14 capacitor that is effective to stop the current or the DC  
15 control signal in those situations on all of ours, as Doctor  
16 Roberts agreed. When I asked him, I went through two of the  
17 charts and said, "Your answer would be the same on the rest?"

18 "Yes."

19 There is always a capacitor that he has identified as a  
20 DC blocking capacitor that doesn't fulfill that function.

21 Let me move onto the second basis, and I will be quicker  
22 on these.

23 The Linear-3 products. If the Court doesn't grant  
24 judgment entirely under *Cross Medical*, or the other arguments  
25 I have made above, the Linear-3 products should be subject to

1 judgment in this case because there is a lacking of any  
2 testimony to say that they infringe.

3 Doctor Roberts, as you will recall, had to change his  
4 position on the fly and on the stand drawing a second DC  
5 control path in order for him to maintain his position. And  
6 when he did that, we objected and we moved to strike, and the  
7 Court granted the motion. So we view that testimony to be  
8 gone. And absent that testimony, there is no basis for the  
9 claim of infringement against the Linear-3 products, and those  
10 products should be out of the case.

11 The third point. On willfulness I think there is a lack  
12 of evidence that the Plaintiffs have presented on the  
13 objective prong. I think their case on the subjective prong  
14 is wrong, but I understand that is a matter for us to argue.  
15 But on the objective prong, I don't think there really is a  
16 legitimate argument.

17 Could a reasonable person, setting aside what ULT did or  
18 didn't think, could a reasonable person looking at this patent  
19 in 2005, 2006, or after, have an objective basis to say, "We  
20 don't infringe this patent," or "This patent is invalid?"  
21 Probably the easiest one to turn to, and we didn't with the  
22 witness pursuant to the Court's direction but will now, is the  
23 voltage source means, because the Court found and knows it is  
24 at least one reasonable view, although there is another  
25 reasonable view, perhaps, it is at least one reasonable view

1 that that is a means plus function term, that there is no  
2 corresponding structure for it identified in the  
3 specification, and that, therefore, it is invalid for  
4 indefiniteness.

5 Because a reasonable person could conclude that, as the  
6 Court did in August, there is a basis to say this couldn't be  
7 willful infringement. We look at this from a purely objective  
8 standpoint in the first place, and we say a reasonable person  
9 will look and say, "This is an invalid patent. I don't even  
10 have to think about my products."

11 We also think because of the positions I just set forth  
12 for why we think there should be a judgment for our favor on  
13 output terminals, control means, and DC blocking means, that  
14 objectively there is no way to say that it was objectively  
15 unreasonable for ULT to believe that it didn't infringe, and  
16 went forward and, quite frankly, incurred all of the expenses  
17 and burdens of this lawsuit. That is point three.

18 Point four, we think judgment should be entered in favor  
19 of ULT on damages prior to September 14th, 2005. That is  
20 based on the marking defense that we have in the case, Your  
21 Honor.

22 Under the marking defense, the burden is on the Plaintiff  
23 to show that products have been marked. The testimony and  
24 evidence here is that beginning sometime in the early to mid  
25 '90s Robertson Ballasts began selling ballasts that practiced

1 the '529 Patent. Mr. Bobel testified that they have continued  
2 selling ballasts that practice the '529 Patent up until  
3 present. And yet the only evidence they have presented of  
4 marking is a ballast that comes from the 1990s.

5 It is particularly significant because in 1999, as you  
6 know, the Robertson-Bobel relationship changed, and so for the  
7 past 12 years Robertson has been, according to Mr. Bobel's  
8 testimony, selling ballasts that practice the '529 Patent  
9 without paying him anything. At least he couldn't confirm  
10 that they paid him anything, and he knew they hadn't paid him  
11 anything in some years, and he has terminated the license  
12 because of that.

13 So I think they have failed to meet their burden of  
14 showing that there has been consistent marking by Robertson  
15 over the course of the time that the testimony says Robertson  
16 has been making products that practice the patent.

17 If I could have one second. So those are the bases for  
18 our motion, Your Honor.

19 THE COURT: Okay. So why should judgment not be  
20 granted on the Linear-3 product?

21 MR. SUDER: Your Honor, I think on that one, because  
22 all of the schematics and wiring diagrams and everything are  
23 in evidence, and based on the similarity between all of them,  
24 even though Doctor Roberts said -- didn't say as to that  
25 point, there is sufficient evidence in the record for this

1 jury to look at that one and determine that they do the same  
2 thing. They can compare the schematics that are in evidence,  
3 identify them from the other linear products, all of the  
4 components, and find for themselves whether they are in there.  
5 If there was no evidence in the record, then I would think  
6 they may have a better point. But given that everything that  
7 is before them, the wiring diagrams, the schematics, the  
8 similarities, it is the exact same integrated circuit, is what  
9 Doctor Roberts said, for all those products, there is  
10 sufficient evidence in the record, just like there are  
11 representative products in this case.

12 They are not going to be looking at 47 different  
13 schematics or 45, so I think it is sufficient for the jury to  
14 -- there is sufficient evidence in the record, let me put it  
15 that way, for the jury to find that there is infringement of  
16 that, because Linear-3 products, Your Honor, is only one  
17 product.

18 THE COURT: Okay. Then address for me Doctor  
19 Roberts' testimony about their needing to be a line to each  
20 output terminal.

21 MR. SUDER: The connected to issue, Your Honor?

22 THE COURT: Not the connected to; that there needs  
23 to be the -- that the capacitor can shut down.

24 MR. SUDER: Oh, yes, Your Honor. This is an  
25 apparatus claim that has structural components. The Court has

1 defined the DC blocking means, the structure being a capacitor  
2 associated with each set of output terminals, that you account  
3 for each one, and so they are operable to stop. It doesn't  
4 say to operate. They are operable to stop the flow. Because  
5 as Doctor Roberts explained, those capacitors also have an  
6 integral part in the relamping. They work with the resonant  
7 converters. So they are there for part of the relamping  
8 process so you don't have that surge.

9 But the point is, is that you take each DC blocking  
10 means, I mean each blocking capacitor, and you see whether  
11 there is a structural one by -- associated with each set of  
12 output terminals, and then together that is the blocking means  
13 and that -- all the green, whether that structure, those  
14 three, or two or three, or whatever the configuration is,  
15 whether those are operable, capable of operating to stop the  
16 flow. And in each instance, and as the Court noted on its  
17 summary judgment order, that structure has to be able to stop  
18 the flow at least as to one filament of any lamp. So if it is  
19 one lamp it has to -- every set of output terminals must be  
20 accounted for. And if a lamp goes bad, that structure needs  
21 to do the intended purpose there.

22 THE COURT: Okay. Well, I will defer -- Yes?

23 MR. ROUTH: If you want to hear anything more on  
24 either of those, Your Honor?

25 THE COURT: Okay.



**Trial Transcript, Volume C, Dated June 15, 2011**

1 that point.

2 Q. Can you tell the jury what your general responsibilities  
3 are as the chief executive officer?

4 A. General responsibilities have not changed as we've gone  
5 through the time of -- since I've been in 2001. With my  
6 management team, we established a strategy of the business and  
7 it's certainly our responsibility to make sure that strategy  
8 is resourced properly, that we obviously provide a very safe  
9 place for our employees to work. We strive to have a very  
10 secure place for our employees to work as well and certainly  
11 we manage the day-to-day operations in balance with executing  
12 a strategy. We're still expected to have a profit.

13 Q. Mr. Sullivan, tell the jury briefly what ULT's business  
14 is?

15 A. ULT, we define ourselves as an energy focused lighting  
16 component and systems business. By that, I mean as we became  
17 ULT in 2001, our key focus had always been how do we advance  
18 technology and lighting for energy savings, and that's what  
19 our main foundation is. We look to technology, make serious  
20 investments in technology, all with an eye towards how can we  
21 continue to move up the energy curve.

22 Q. Are you an engineer, sir?

23 A. No, I am not. I am not skilled in the art.

24 Q. But do you have an understanding of the principle products  
25 of ULT's business?

1 A. After twenty-five years, a little bit has sunk in,  
2 although I would say like you, I'm not an engineer and not  
3 skilled in the art and reading a circuit diagram is a  
4 challenge for me as well, but I am -- I do understand our  
5 products, yes.

6 Q. Just briefly, although the jury has heard about this from  
7 a different perspective, tell us what a ballast is.

8 A. A ballast, as you've heard, is a device -- and there have  
9 been very good explanations of a ballast -- but it is a device  
10 required -- been referred to as a gas discharge lamp, it's a  
11 fluorescent lamp, and basically that lamp cannot run off of  
12 direct current coming out of the socket, and so what a ballast  
13 basically does is it's a -- a power supply that starts the  
14 lamp and then after the lamp is started, it continues to  
15 regulate how that lamp is performing, regulates currents,  
16 regulates voltages, so that it gives a light output that's  
17 expected.

18 Q. Okay. I'm going to bring you --

19 MR. ROUTH: With the Court's permission, I'll  
20 approach.

21 BY MR. ROUTH:

22 Q. I'm going to bring you two things. First, I'm going to  
23 hand you this and ask you what it is.

24 A. This is a product. It's one of our very standard  
25 products, two lamp 32 watt, which is the T 8 lamp, program

1 start, multi-voltage product.

2 Q. You say a T 8 lamp. I think the the jury has seen that --

3 A. That's a one inch lamp, that one eighths of an inch lamp.

4 Q. It's not as big as the T 12 --

5 A. T-12 --

6 Q. And it's not as big as the T 12 and it's not as small as  
7 the T 5, correct?

8 A. That's right.

9 Q. It's a different product. Is this also a ballast?

10 A. Yes, it is.

11 Q. Okay. There are wires coming out. Just briefly, if you  
12 could orient the jury to what those wires would do in  
13 practice.

14 A. In practice, this will be the power wires, and these wires  
15 will connect to a series of the pins on the ballast or on the  
16 lamp, so power in and then the load.

17 Q. Okay. This is how ULT sells the product?

18 A. We sell it in a number of package configurations. That is  
19 one.

20 Q. How does the ballast that you sell end up getting attached  
21 to the power -- the input and the output on the power?

22 A. That will either get done at a -- our two main customers  
23 are fixture manufacturers, guys who actually build the  
24 fluorescent fixtures. They will assemble our ballasts into  
25 that fixture. And the other major customer is wholesaling

1 where they will put a package like this on the self and  
2 maintenance when they have a defective ballast or something  
3 needs to be replaced, they will go purchase this from a  
4 distribute, in some cases a Home Depot-type, and they will use  
5 this as a maintenance product and then they will put this --  
6 replaced the current ballast in the ceiling.

7 Q. Mr. Sullivan, could you explain to the jury a little bit  
8 about the history and background of Universal Lighting?

9 A. Universal Lighting. Back in 1947, our founding company  
10 was Universal Manufacturing and Universal manufacturing was --  
11 started out actually in the scrap business and then moved  
12 rapidly into the transformer business and then moved into what  
13 is the magnetic ballasts that we talked about earlier which is  
14 basically a transformer that drives a fluorescent lamp. So,  
15 they've been in the magnetic ballast business for quite some  
16 time, probably until -- Well, I know for sure, until 1986 when  
17 they were acquired by Magnitech.

18 Magnitech also owned another company called Triad  
19 Utrad. Triad Utrad was a very -- and still is part of us --  
20 an innovative technology company that had the technology and  
21 developed for the initial electronic ballasts. Magnitech  
22 owned them from 1982. So, in 1986 those two companies came  
23 together.

24 Through the course of -- until 2001 when Magnitech  
25 chose -- they owned some other companies, some motor companies

1 and transformer companies as well as a lighting company. In  
2 2000 they decided to divest themselves of the lighting  
3 company, which is us, and then in 2001 we became ULT as an  
4 independent company outside of Magnetech. And then we were  
5 purchased by Panasonic in 2007.

6 Q. Approximately how many employees does ULT have?

7 A. We have approximately 2000. Just a little bit over 2000.

8 Q. And where is ULT's business located?

9 A. Our headquarters is in Nashville, Tennessee, and we have  
10 been there since 1994 and that's when I moved to Nashville,  
11 Tennessee, so it's becoming home. We actually have one floor  
12 of one wing on that building there.

13 Q. So, the building that's up on the screen now is the -- the  
14 Nashville headquarters --

15 A. Right.

16 Q. But that -- you said that building is one you owned or --

17 A. We do not own. We lease one floor there.

18 Q. Okay. Where else do you have facilities, sir?

19 A. We have facilities -- our main other facilities are our  
20 technology facilities in the U.S. Our main technology  
21 facility is in Huntsville, Alabama, and then we have a  
22 satellite facility in Boston and we're in the possess of  
23 expanding our newest technology center in Austin, Texas. Our  
24 main manufacturing facility is right across the border from  
25 Brownsville in Matamoros, Mexico.

1 Q. You said there's an expanding center in Austin. Where is  
2 that in Austin, sir?

3 A. It's at Round Rock. Austin, Texas. Yeah. Round Rock is  
4 the specific city where it's in.

5 Q. Does ULT have any other facilities in terms of regional  
6 distribution?

7 A. We have three regional warehouses: One outside of  
8 Nashville, one the east coast, one on the west coast, and we  
9 have a series of different agents which are commissioned  
10 agents that we've dealt with that also have satellite offices,  
11 but our warehouses, we have three of them throughout the  
12 United States.

13 Q. Mr. Sullivan, does ULT manufacture it's own products as  
14 opposed to buying and reselling?

15 A. We assemble all of our own products. Manufacture, yes.

16 Q. Are there any components of the ballasts that ULT sells  
17 that it doesn't manufacture for itself?

18 A. Most of the components we do not manufacture ourselves.

19 Q. Where do you obtain those components?

20 A. Those components are purchased from electronics  
21 manufacturers, they -- you know, the things we've been hearing  
22 throughout the course of the last two days, the diodes, the  
23 transistors, the ICs, the print circuit cards -- we don't  
24 manufacture those. We purchase those and we assemble them  
25 into this product.

1 Q. And there are a number of products that we've heard  
2 discussion of that begin with an ES at the beginning. Does  
3 that relate to those products?

4 A. That would relate to those products, yes.

5 Q. So, they were the products developed prior to -- developed  
6 at ESI and then ESI's asset was acquired by --

7 A. By universal Lighting.

8 Q. Now, there's been some testimony that the jury's already  
9 heard about, the difference between electronic ballasts and  
10 magnetic ballasts. Does ULT continue to make both electronic  
11 and magnetic ballasts?

12 A. We do but, arguably, 97/98 percent of our manufacturing is  
13 electronic. We still manufacture a small amount of magnetic  
14 ballasts. There's still a market in Mexico and Central  
15 America, so we do manufacture a small amount that are not  
16 sold -- Well, they are sold predominantly in Mexico and  
17 Central America.

18 Q. Over what time period has Universal moved from more  
19 magnetic ballasts to more electronic ballasts?

20 A. We actually started that conversion when we were part of  
21 Magnitech in 1999. When we became an independent ULT, our  
22 main strategy was to accelerate that transition from magnetic  
23 technologies to electronic technology.

24 In 2005, the Department of Energy had outlawed for  
25 any new fluorescent fixture that you could not use magnetic



1 ballasts. Knowing that was coming and recognizing that our  
2 charter of ULT was an energy focused company, we felt it  
3 important that we accelerate our application or our expansion  
4 of electronic faster than that, so while the marketplace  
5 changed over -- it probably was a 50/50 crossover by  
6 1999-2000, between magnetic ballasts and electronic ballasts,  
7 and it held that way maybe 60/40 through the early 2000s, we  
8 had changed ULT over to a predominantly electronic foundation  
9 by 2003.

10 Q. Why is it that the Department of Energy has effectively  
11 prevented further use of magnetic ballasts in new  
12 construction?

13 A. Energy savings. It was -- everything was directed at  
14 energy savings, which I think was mentioned earlier,  
15 lighting -- fluorescent lighting in particular is a tremendous  
16 opportunity for savings for -- on a broad level base for  
17 energy in a very reasonable way.

18 Q. Do electronic ballasts have other advantages that  
19 consumers get to enjoy as a result of their different  
20 capability?

21 A. Well, yes. Because is it an electronic power supply, and  
22 again, that was another one of our strategies -- we would  
23 always refer to it as into the building -- from the standpoint  
24 of once you introduce electronics into, especially digital  
25 electronics which is where we're going now, the

1 microprocessors, computers -- that ballast can do more than  
2 just light the light and monitor the lamp. It can sense, you  
3 can dim it, you can control it, you can communicate with it by  
4 in large in a number of fashions, and our context has always  
5 been the ballast is the central heart of a lighting fixture.  
6 It communicates to the lamp, the lamp communicates with it,  
7 you can communicate with the ballast as well from another  
8 control source and tell that ballast you want it to do  
9 something different to the lights, so it really is a strategy  
10 that we look at it as a very dynamic process that electronics  
11 has opened up.

12 Q. And in what ways are integrated circuits important to  
13 those kind of additional features?

14 MR. SUDER: Excuse me, Your Honor. I'm sorry,  
15 Mr. Sullivan. Mr. Sullivan has been identified in amended  
16 disclosures, Your Honor, with very specific information. We  
17 are now getting far afield from that. I would object this is  
18 beyond the scope of their disclosure.

19 MR. ROUTH: I don't have the disclosure in front of  
20 me, Your Honor.

21 MR. SUDER: I, do Your Honor.

22 MR. ROUTH: But I think it included the description  
23 of our products.

24 MR. SUDER: No, it doesn't, Your Honor.

25 MR. SUDER: Overall organization and decision-making

1 of ULT, practices and history of ULT with respect to  
2 licensing, and responding to issues relating to alleged  
3 infringement. That is all that's disclosed in their amended  
4 disclosures.

5 MR. ROUTH: Your Honor, I'm not expecting to go into  
6 detail on any background. I wanted Mr. Sullivan to be able to  
7 tell the jury what products we make and what they contained.

8 THE COURT: Okay. You can answer the question.

9 A. We use integrated circuits for a number of functions.  
10 First off, when you look at the size of this ballast, this is  
11 actually a fairly large ballast. What integrated circuits  
12 permit is us to continue to shrink down the package size. In  
13 addition to shrinking down the package size, by consolidating  
14 certain discrete components in there, it gives us a tremendous  
15 amount more flexibility in the overall capability of this  
16 ballast. It adds additional feature sets, sensing, things  
17 that we can require, ask this ballast to do in our overall  
18 strategy of using it as really a communications vehicle.

19 Q. You described some of the capabilities of the ballast.  
20 We've heard discussions of ballasts having intelligence or  
21 intelligent ICs. Could you explain what that means?

22 A. From my vantage point, what the intelligent IC basically  
23 does is it -- you're communicating something to the ballast or  
24 the ballast is sensing something, a lamp condition possibly  
25 or, you know, in the case we're talking, a missing lamp, and

1 in that -- in that the IC responds to that signal. It's  
2 programmed to do a certain thing.

3 Another dimension of it is you can tell it you want  
4 the light output to be dimmed down to 70% and IC is really  
5 going to control that function as well.

6 Q. How are the ballasts that ULT manufactures and sells, how  
7 are they arrived at? What is it -- does ULT design its own  
8 ballasts?

9 A. We do all our own design, yes. Yes.

10 Q. What's entailed in that?

11 A. In the design process or identifying what products we  
12 design to?

13 Q. Both.

14 A. Okay. First, when you look at like the products we design  
15 to, our first focus is energy. And as we talk to our key  
16 customers and our key customers, yes, are electrical  
17 wholesalers and fixture manufacturers that I mentioned, but  
18 really the customers we want to understand are the people that  
19 own the buildings, the lighting specifiers, maintenance  
20 engineers, those people who are really working with the  
21 lighting, maintenance contractors, new construction, and what  
22 are they really looking for from light output, lighting  
23 controls, variability, and those types of things. So, we  
24 understand what's happening, we want to understand, and we  
25 spend a great deal of time in the marketplace trying to get a

1 better understanding of how we can enhance our products and  
2 also how can we continually upgrade our designs so that each  
3 product is more energy efficient.

4 Q. In what ways does ULT organize itself and what facility  
5 does it have in order to assist in this design process?

6 A. As I mentioned, our key design facility, our headquarters  
7 design facility is in Huntsville, Alabama, and in that  
8 facility it houses developmental engineers or design engineers  
9 that are actually designing ballasts. In addition to that in  
10 Huntsville, it houses all our compliment qualifications, as we  
11 mentioned. We -- we don't manufacture any of the components.  
12 But we qualify all of the suppliers. We've got very rigid  
13 quality and reliability standards that we set on our products.  
14 So before we put anything in there, it goes through a very  
15 rigorous test. So they qualify all the components. They're  
16 the engineering administration, maintaining bills and  
17 materials, the schematics that you saw, those activities.

18 When you look at our Austin facility, the reason we  
19 set it aside is because it really is looking at new advanced  
20 technologies. We're looking at Austin and how -- our  
21 investment there is really saying next generation dimming  
22 ballasts for energy management and I'm sure you've all heard  
23 of LED. LED is the next generation --

24 Q. Mr. Sullivan, let me just stop you. You may be sure  
25 everyone has heard of LED but I'm not sure because you told me

1 about it the other day. Let me stop you. What does LED refer  
2 to?

3 A. LED is light emitting diodes, and it is an electronic  
4 component that now is beginning to replace very -- Well, I  
5 shouldn't say very rapidly. It is going to accelerate here as  
6 we move through the middle part of this decade. It's starting  
7 to replace standard lighting. It already has taken a foothold  
8 in outdoor lighting and really the first application indoors  
9 is going to be down lighting. As I look at this room here, I  
10 see some very interesting applications for an energy savings  
11 LED, among other places in this building that could be  
12 upgraded.

13 But it is -- it actually is a little component that  
14 when you energize it, it gives off light. And the key  
15 technological change that happened in the middle 2000s is we  
16 figured out how to do a white LED and that had not, so to  
17 speak, that atom hadn't been smashed for a long time and so  
18 they have a white LED and through color mixing, if you take  
19 red, green, blue, mix them the right way, you also get white.  
20 So, what it's allowing us to do is really progress in the  
21 strides we've made going from incandescent to fluorescent  
22 energy savings are great and now from magnetic fluorescent to  
23 electronic fluorescent was a big step.

24 As that chart there shows, the next step is moving  
25 into advanced dimming and then ultimately LED is -- is

1 technology -- it is a very -- it's a quantum step for the  
2 lighting industry.

3 Q. Okay. Mr. Sullivan, you've referenced a demonstrative  
4 that we've put up. Is this chart or diagram that you used as  
5 part of your normal work?

6 A. This is what we -- when we define our strategy in the  
7 direction where we've been and really where we're accelerating  
8 to, this is really the foundation of our technology evolution  
9 and as you look -- like we had talked in the 1950s with the  
10 magnetic ballasts, that was a very stable technology for a  
11 long period of time.

12 Late 70s, early 80s, through the early 90s, we moved  
13 from that T 12 electronic ballast into the T 8 electronic  
14 ballast. The T 8 lamp was specifically designed to be driven  
15 by an electronic ballast. So, inherently, that system was  
16 more efficient than electronic in T 12. After that, this  
17 industry moved into some very high end power supply is what I  
18 would call. Compact fluorescent is a very sophisticated power  
19 supply. That T 5 ballast is a very sophisticated power supply  
20 and what we're asking it to do, what it's expected to do. And  
21 then as we move through the advanced dimming, it's really  
22 taking the current status of the technology now we have to add  
23 cost effective dimming. In other words, we want to dim the  
24 lights when we want to -- not just for architectural -- in  
25 other words, when we have a nice conference room or something

1 like that. We want to dim them for energy management. So,  
2 it's 110 degrees outside right now and the utility thinks that  
3 we're not going to have enough load for our condition. I need  
4 some immediate power. One of the things that we're working on  
5 in the industry for controlability is that they say we can go  
6 to every building that the government manages or every  
7 building that a consumer signs up to do this and we can grab  
8 70% of the light load right now and save that energy because  
9 we're going to apply it to air-conditioning so we don't hit  
10 that peak rate charge that we'll hit our bills. So, that's  
11 the direction of the technology of how do we get from current  
12 fluorescent applications, which are the T 5s and still the T  
13 8s, how do we get into a controllable situation for energy  
14 management, not just for the architectural benefit. And then  
15 the next real major step is LED.

16 The other significant item on our technology  
17 evolution is 35 -- less than 10 years, less than 5 years,  
18 right now the technology in the lighting industry, the  
19 light -- as it is if any of you have an I-pad, that's changing  
20 very, very rapidly. It's moving very quickly. The composite  
21 of our energy staff has gone from analog engineers in the  
22 1990s to now we've got digital engineers, software engineers,  
23 thermal engineers, optical engineers for LED that really look  
24 at what's happening with the light output, so the  
25 sophistication of the lighting industry has really changed



1 dramatically over the last decade.

2 Q. Mr. Sullivan, with respect to this technology evolution,  
3 what role has Universal played in the developments that are  
4 depicted here?

5 A. We've been -- we've always been a leader in there. When I  
6 go back into the early -- Well, when I started with company in  
7 '86, I was in manufacturing, and one of my responsibilities  
8 was to manufacture electronic ballasts. I worked with Bob  
9 Burke who well meet a little bit later. Bob is recognized in  
10 the industry as the father of the electronic ballast. He has  
11 a number of patents --

12 MR. SUDER: Excuse me, Your Honor. We're not here to  
13 validate or talk about the qualifications of their experts.  
14 It's beyond the scope of what this witness is going to  
15 testify.

16 THE COURT: Overruled.

17 A. We've been a very technology advanced company. We were --  
18 we introduced one of the first electronic ballasts --

19 Q. Do you remember when that was?

20 A. Well, the actual first electronic ballast was in the --  
21 Well, first was a DC ballast rather than an AC ballast. The  
22 DC applications were rail cars, buses, and those applications  
23 that will run off the system of the vehicle. And that was in  
24 the late 60s.

25 Q. Just so I'm clear, you're calling it a DC system. It's

1 running off the battery of the car or the train. That's a DC  
2 source, correct?

3 A. A direct current source, yes.

4 Q. Okay.

5 A. And then as we moved into the 1970s, took that application  
6 or took that -- had that thinking and said this should also  
7 save energy and heard the discussion of operating a lamp at a  
8 higher frequency does save energy -- once you get above 10  
9 kilohertz, that's absolutely right -- continued to apply that  
10 type of logic into the process of let's move into energy  
11 savings -- and this was in the mid to late 70s -- The  
12 technology stabilized a bit in a late 80s. Late 80s, early  
13 90s, with the help of the Department of Energy, it really  
14 started to accelerate.

15 Q. Okay. Mr. Sullivan, the jury has heard about some ULT  
16 products and they've heard about them described as the parties  
17 have agreed to describe them with groups and represented  
18 products and things. I want you to give an overview of what  
19 ULT's products are, it's ballast products, in terms of how you  
20 think of them and characterize them, ULT characterizes them,  
21 and how they're sold.

22 A. This first one -- we're actually going to go through a  
23 little bit of the technology evolution here as it relates to  
24 the current generations of ballasts. We still make T 12  
25 linear fluorescent ballasts. Coming up, I think by the middle

1 of this decade, they're probably going to outlaw the T 12  
2 lamp; it is not the most efficient lamp system. But there are  
3 an installed base of T 12 lamps. Like the conference room  
4 that we're in is still magnetic T 12. When those magnetic  
5 ballasts fail, there's no -- in 2010, the DOE outlawed all  
6 magnetic ballasts. So, this is the electronic replacement  
7 that will replace the magnetic ballasts if people choose not  
8 to change out the lamps to another system.

9 Q. Bring up the next one. What are the products that are  
10 shown here?

11 A. This is our T 8 products. NEMA premium. We've talked  
12 about NEMA earlier, National Electrical Manufacturing  
13 Association. They don't set regulations. They set standards.  
14 They are a standard setting body. They have defined a level  
15 of energy efficiency for T 8 lamps, or T 8 systems I should  
16 call it, and the system defined as the ballast and the lamp  
17 together. The lamp was designed for an electronic ballast to  
18 be driven by an electronic ballast. So, this is by in large  
19 the majority of the installed base both current base and the  
20 new base is T 8 right now.

21 Q. We've heard about T 5 lamps and we've been -- we've shown  
22 the jury those are much smaller. Do you have products that  
23 are used in connection with T 5 lamps?

24 A. Yes, we do. Yeah -- Well, right there.

25 Q. By the way, are these slides -- These are what are used in

1 technology?

2 A. Tridonic we had talked about earlier. It was a technology  
3 that helped us accelerate into that DALI dimming product. In  
4 the case of Lutron, they notified us that they felt we  
5 infringed. We did. We got together and we discussed it.  
6 Their normal process is to go -- they've got some very  
7 innovative dimming technologies. I was called -- the guy who  
8 called me informed me that I was going to get a letter telling  
9 me I was going to get a lawsuit and he very much explained to  
10 me that that is their normal practice. We got together and we  
11 came to a very amenable conclusion to that discussion. Our  
12 attorneys were involved. They needed to be to draw up the  
13 agreements.

14 But, again, it was -- that was the basis of the suit  
15 and where it ended up was there was some intellectual property  
16 that ULT had that they would have liked, they had some that we  
17 would have liked, and we set up an arrangement where we  
18 exchanged that and then some cash.

19 MR. ROUTH: With the Court's permission, I'll  
20 approach.

21 BY MR. ROUTH:

22 Q. I'm going to hand you a document, Mr. Sullivan. The  
23 document I'm handing you we've seen before.

24 A. Yes.

25 Q. I'll put it up on the screen. This is the letter you

1 received from Mr. Bobel's attorneys at Welch & Katz in  
2 September of 2005. Is that correct?

3 A. Yes.

4 Q. Was that the first time ULT had heard from Mr. Bobel or  
5 anyone acting on his behalf?

6 A. Yes, as far as I know.

7 Q. What did you do or what did you and what did ULT do when  
8 you received this letter?

9 A. When we received this letter, our normal practice is to,  
10 especially when it comes from an attorney and it is in a  
11 threatening fashion, that I do turn it over to our attorneys.

12 Q. Did you view this letter as being in a threatening  
13 fashion?

14 A. Yes, I did.

15 Q. And why is that?

16 A. Well, it comes to the paragraph that we had highlighted  
17 early that we need to take specific actions, otherwise there  
18 was a very serious lawsuit coming and -- and we took it very  
19 serious and we -- it came from an attorney. I'm not an  
20 attorney. I'm not an engineer, so I needed -- needed help.

21 Q. You turned the letter over to your attorney. Was anything  
22 done internally at ULT with respect to the letter?

23 A. Well, yeah. And I shared it with our engineering group  
24 and our product management, the guys who actually run the  
25 engineering or direct the projects. We're obviously very

1 aware of the '529 patent and have been because we've cited it  
2 in patents and we're very aware of it. Obviously, the request  
3 of the IP committee and the engineering group as well,  
4 continue to make sure you have a very good understanding of  
5 this patent and that we're not infringing.

6 Q. We don't want to go into any discussions you may or may  
7 not have had with Mr. Patterson, but what did you learn from  
8 the IP committee and the engineers about their view on the  
9 '529 patent?

10 A. The IP committee and our engineers continued to reinforce  
11 to me we did not infringe on the '529 patent.

12 Q. Did you as the CEO and chairman at the time of ULT make a  
13 decision about what to do in light of Mr. Bobel's letter?

14 A. From the standpoint of --

15 Q. Whether you should continue manufacturing or change your  
16 designs, that type of decision?

17 A. Based on feedback from our engineers, the IP committee, I  
18 did make the decision that we did not infringe and we should  
19 continue to manufacture the product.

20 Q. Did you at some point learn about a communication from --  
21 Let me stop. I'm going to back up before I do that. Did you  
22 receive any further communications about Mr. Bobel during the  
23 time period 2006?

24 A. 2006, I think it was the middle part of the year, I  
25 received the -- I don't know if it was from Mr. Bobel direct.

1 I -- the G.E. communication was somewhere in the middle 2006.

2 Q. What communication did you receive from Mr. --

3 A. I received a copy of a letter from G.E.'s in-house  
4 attorney regarding a letter that they had given to -- they  
5 sent to Jeff Immelt at G.E. It commented -- I think the date  
6 was December, but -- it also referenced in 2006. Basically  
7 the same letter I had gotten, it looked like.

8 Q. So, G.E. communicated to you that G.E. had received a  
9 letter from Mr. Bobel?

10 A. Yes.

11 Q. And that letter was similar to the one you'd received?

12 A. Yes.

13 Q. Why was G.E. telling you about a letter they had received  
14 from Mr. Bobel?

15 A. Up until 2003/2004, Universal Lighting Technologies was  
16 the primary manufacturer for all of G.E.'s ballast products.

17 Q. Has that changed?

18 A. Yes. In 2003 and -- I forget the specific time -- 2003,  
19 2004, we -- we ended that arrangement.

20 Q. In light of there being some period of time earlier, when  
21 you got your -- when you got the letter in 2006, there had  
22 been a period before 2003 where you'd been supplying G.E.  
23 What did you do in terms of responding to G.E.?

24 A. Well, I turned it over to our counsel to -- to follow  
25 through with that one and from what I understand -- in -- I --

1 they -- I believe they responded.

2 MR. ROUTH: With the Court's permission.

3 BY MR. ROUTH:

4 Q. Mr. Sullivan, I'm going to give you a document that's  
5 marked as Defendant's Exhibit 103 and I ask you to tell us  
6 what that is.

7 A. This was the letter that I sent to G.E. outlining him that  
8 we acknowledged the receipt of obligations to G.E. under the  
9 conditions of the purchase agreement that G.E. had with us to  
10 purchase our ballasts, that we would indemnify them of any  
11 patent infringement, and please direct any further questions  
12 to Mark Patterson, our attorney.

13 Q. Now, I want to move forward. Did there come a time when  
14 you learned that Mr. Patterson had communicated to Mr. Bobel  
15 Mr. Patterson's views on the '529 patent?

16 A. Yes. I believe that was in the fall of 2006.

17 Q. And you said you turned the G.E. matter over to  
18 Mr. Patterson to at least deal with in some ways. Did he also  
19 deal directly with the letter that Universal had received from  
20 Mr. Bobel?

21 A. Yes.

22 Q. And what did you learn from that communication with  
23 Mr. Bobel that Mr. Bobel had been told by Mr. Patterson?

24 A. What I understand Mr. Patterson told Mr. Bobel that we did  
25 not infringe.



1 Q. Do you understand Mr. Patterson indicated also in an  
2 opinion about the validity of the '529 patent?

3 A. Yes, he did.

4 Q. Did you ever receive any response from either Mr. Bobel or  
5 his lawyers prior to the filing of this lawsuit?

6 A. I didn't.

7 Q. Mr. Sullivan, give us an idea of what it has cost ULT to  
8 defend this case.

9 A. After this week, the out-of-pocket costs will exceed \$2  
10 million dollars.

11 Q. Has it had other costs or burdens to ULT?

12 A. Yes, it has. I'm sure you will agree with me that there  
13 are other places that we would rather be. We have our  
14 engineers here. We -- myself. Business we're obviously on  
15 the phones, on the computers, and it's -- not just this week,  
16 but the amount of time that we've had our engineering people  
17 continuing to go through the process, filing documents, our  
18 financial people, everyone included. It's been a very time  
19 consuming activity as well.

20 Q. Given those costs and those burdens, sir, why are you here  
21 today?

22 A. We -- we have a company policy and practice that if we  
23 have done nothing wrong and we -- the right thing to do is  
24 fight for it. It has been our -- we've done this a time  
25 before and, yes, it can be more expensive, but if our company

1 has not done anything wrong, we view it as an insult to the  
2 people, to the engineers, to everyone included that are doing  
3 the right thing. So, we will fight it. We will fight it.

4 MR. ROUTH: I have nothing further at this time, Your  
5 Honor. I'll pass the witness.

6 CROSS-EXAMINATION

7 BY MR. SUDER:

8 Q. Mr. Sullivan --

9 A. Yes.

10 Q. -- and if you've done something wrong, what will you do?

11 A. We will rectify it.

12 Q. I'm sorry?

13 A. We will rectify it.

14 Q. Now, Mr. Sullivan, my name is John Suder and until this  
15 week we've never met, have we?

16 A. No, we have not.

17 Q. I did not get a chance to take your deposition?

18 A. No, you haven't.

19 Q. Mr. Sullivan, just so I understand your testimony -- I'm  
20 going to try to be brief -- after Mr. Bobel wrote to you and  
21 you satisfied yourself that you didn't infringe -- I'm going  
22 to get to that -- you didn't do anything different as a  
23 company?

24 A. No, we did not.

25 Q. So, you didn't suffer any prejudice by the fact that

1 testimony better.

2 **THE COURT:** What are the sides about?

3 **MR. ROUTH:** They allow the witness to -- they're  
4 about patents that ULT has patented and how they relate to  
5 products.

6 **THE COURT:** Okay.

7 **MR. SUDER:** Your Honor -- I'm sorry to belabor this  
8 in front the jury. Last night I got literally over a hundred  
9 slides from them for different witnesses coming up -- until  
10 midnight. It was real late. I really don't know which three  
11 is he is talking about. That's the problem I'm having.

12 **MR. ROUTH:** The three from Mr. Berry came at five  
13 p.m. --

14 **THE COURT:** Well, pull the three out and give it to  
15 him so he can see them --

16 **MR. ROUTH:** He has had --

17 **THE COURT:** Well, if he has had a hundred, how does  
18 he know which three out of the hundred --

19 **MR. ROUTH:** These three came with the --

20 **THE COURT:** Pull the three out and give him the  
21 three.

22 **MR. ROUTH:** We don't have a hard copy, Your Honor.  
23 They're on the system.

24 **THE COURT:** Okay. Well, start your witness and  
25 don't -- don't go into those slides until he's had a chance to

1 see them.

2 MR. ROUTH: Do you have the copies we sent you last  
3 night or not?

4 (Off-the-record discussion between counsel.)

5 THE COURT: Go ahead and start your witness though.

6 TRAVIS BERRY, DEFENSE WITNESS, was sworn

7 DIRECT EXAMINATION

8 BY MR. ROUTH:

9 Q. Mr. Berry, I'm sorry to keep you waiting. I'm sorry to  
10 keep you waiting. Mr. Berry, could you tell --

11 MR. ROUTH: Has the witness been sworn?

12 THE COURT: He has.

13 MR. ROUTH: Okay.

14 BY MR. ROUTH:

15 Q. Could you tell the jury who you are?

16 A. My name is Travis Berry. I live in Huntsville, Alabama.  
17 I'm the vice-president of engineering for Universal Lighting.

18 Q. How long have you worked at Universal?

19 A. I started at Universal in January of 2005.

20 Q. And what's your position there? I'm sorry. What's your  
21 responsibility that comes with your position there?

22 A. Yeah. We have over 130 engineers working on many projects  
23 at one time and the primary function of the group is to  
24 deliver products that are safe, reliable, and have a cost  
25 that's good for the market, so that's my primary job. I

1 work -- many of my ours -- a large percentage of my hours each  
2 day are working with my direct reports and their teams to make  
3 sure that gets done.

4 I also work with different departments inside the  
5 company, manufacturing, for example, where we let them know  
6 what technology we're working on so that they can be prepared  
7 when it comes time to actually manufacture those products.

8 And then I work with marketing, to some extent, on  
9 strategy to talk about technologies we're seeing and how those  
10 technologies might be part of future products.

11 Q. What types of different ballasts does ULT sell and --  
12 really, what I'm asking is what type of applications do you  
13 have ballasts?

14 A. We have -- we have ballasts that cover compact fluorescent  
15 lamps. These are the small lamps you see in down lights and  
16 perhaps even here in these fixtures. We have linear --

17 **THE COURT:** Be sure you speak into that microphone.

18 **THE WITNESS:** Okay.

19 **THE COURT:** I'm having a hard time hearing you.

20 A. Linear fluorescent products. These would be like you see,  
21 you go to your grocery store, hospital. Common there. We  
22 have some residential products you might find in your garage  
23 or laundry room of your home. And then we have -- we're  
24 expending now with LED. Those aren't called ballasts. They  
25 are called drivers, but they have a very similar function.

1 They support the device that provides the light.

2 Q. During the course of the trial so far, Mr. Berry, the  
3 jury's seen references to ULT products using different I think  
4 they're all alphanumeric designations -- a bunch of code  
5 numbers and letters. I want to just at least take a stab at  
6 having some explanation of that.

7 To do that, first, I'm going to show you this, which  
8 is a list of all the products that are in the case. There are  
9 some -- there are some words down here that are not really  
10 part of your product. Linear Group 1, Linear Group 2, etc.  
11 Those are the groupings we have done for the case. I don't  
12 want you to be confused by those.

13 There are also though these alphanumeric designations  
14 and I've just highlighted one. The B 254 PUNV-D. What is  
15 that?

16 A. Okay. That's -- we'll look at each -- each digit at a  
17 time here.

18 Q. First of all, is that a designation that refers to a  
19 ballast?

20 A. Yes. Yes, it is a ballast.

21 Q. So, you were about to explain the B actually moves  
22 something?

23 A. Yes. The B means this is a product that would be used for  
24 our linear -- linear lamps that are on the market. So, these  
25 are the like the four foot T 5 lamps. Basically, the linear

1 lamps are long tubes, but sometimes they can be U shaped, but  
2 they have connections on two ends. So, that's what the B  
3 means.

4 The 2, following the B, means the number of lamps  
5 that the -- designates the number of lamps that the product is  
6 designed to support. So, this one would support two of those  
7 lamps.

8 The 54 is the -- designates what types of lamps.  
9 These are 54 watt lamps supported by this product.

10 Q. 54 watt would tell you how much power they use and how  
11 much light they should give off?

12 A. Exactly. There's a correlation there, yes.

13 P is a program start. That's the way the lamps are  
14 started.

15 And the UNV stands for universal voltage. In your  
16 home you have 120 volts coming out of the wall, so that's a  
17 common voltage. But for a grocery store, you may have a 277  
18 volts lighting circuit. And so the UNV products will support  
19 both 120 and 277, so you will have one ballast that can go in  
20 either place.

21 And then the final digit, the D, is just the package.  
22 Our customers know when we talk about having a D can, they  
23 know what size it is and what fixtures that it would go into.

24 Q. Some other products are going to have a C and those all  
25 seem to be under the compact fluorescent category. So, that

1 first letter will change and it will tell you what kind of  
2 ballast it is. The next one, you've pointed to one that had a  
3 2. What are the various options for that type of -- for that  
4 category in our products?

5 A. For the -- Well, for the -- following the B -- immediately  
6 after the B or after that --

7 Q. Immediately after the B.

8 A. Immediately after the B we have 1 for a one light, 2 for a  
9 two light, 3 for a three light, and 4 for a four light. Those  
10 are the common --

11 Q. Your ballasts will go from -- anywhere from -- one that's  
12 designated for one lamp to one that's designated for up to  
13 four lamps?

14 A. That's right.

15 Q. We've heard about this earlier, but some of the products  
16 at the bottom have an ES at the front. What does that relate  
17 to?

18 A. In November 2002, we acquired the assets of a company  
19 called Energy Savings and they had a product line that we --  
20 that we were able to acquire, basically, and begin  
21 manufacturing ourselves, and those are the -- those are the  
22 designators supplied to those products.

23 Q. Over to the right there's a column that's headed  
24 generation. What's that refer to?

25 A. The first -- the first time we developed a new platform



1 for a particular lamp, we give it an A generation and then  
2 later, if we find new technology, opportunities to reduce  
3 costs or features to be added potentially, then we might  
4 redesign that product and we would give it then a B  
5 generation. So, it's sequential generation of products  
6 basically of the same model for the same applications.

7 Q. And when you change from one generation to another, is  
8 there a change in the design?

9 A. Generally, yes. Yes.

10 Q. Tell me about ULT's R&D and it's capabilities in research  
11 and development.

12 A. I think I mentioned earlier we have a staff just over 130.  
13 They, basically, take products from concept to completion to  
14 the market. We have a -- of course, a manufacturing -- a  
15 manufacturing group and a marketing group that markets them.  
16 We're responsible for the design. So, marketing provides  
17 specifications, requirements for a product. We will work  
18 through the prototype stage, the paper design stage, decide  
19 how we want to design this product, what technologies we  
20 should use, what components we should use, and then we'll go  
21 into pilots with manufacturing -- pilot runs to make sure they  
22 can manufacture the product, and then once all of that -- all  
23 of that's done, we will release the product for mass  
24 production.

25 Q. When a ULT engineer comes up with a design for a ballast

1 they think is unique or novel, they don't believe anyone has  
2 ever come up with it before, is there a process for  
3 considering patents?

4 A. Yes. That's -- there's a process that's in our -- just a  
5 -- kind of a subset or subprocess in our overall development  
6 process where we review -- we make sure we review to  
7 understand if there's new -- anything new inside the product.  
8 Often we'll reuse circuits and technology, but if we find  
9 something new, then certainly we look to patent it, if we can,  
10 and we will do patent searches on our own to understand --  
11 maybe we'll find that it's already been patented. And if it  
12 hasn't been, we write a disclosure that we can give to our  
13 attorney so he can go out and do a more extensive search and  
14 come back and let us know if the idea can be patented or not.  
15 And if it can, then we move forward with submitting to it the  
16 patent office.

17 Q. You've used the term we've heard before but I want to make  
18 sure we're clear on your understanding, what is -- in this  
19 context of developing your own technology, what's a patent  
20 search?

21 A. We -- taking the basic -- the particular approach that's  
22 being considered for a patent and looking to see if that  
23 approach has already -- has already been patented.

24 Q. So, you're looking to see if something might anticipate  
25 the design --

1 A. Right.

2 Q. -- you have in mind?

3 A. Exactly.

4 Q. And if you find there are -- you've developed sort of an  
5 array of patents in the field so you can see what's been  
6 patented and what remains for innovation?

7 A. We have -- Yes. We have a patent committee. I understand  
8 Chris Radzinski will be out later to talk about that. But  
9 we -- we track -- keep track of patents related to ballast  
10 products in the business that we're in.

11 Q. When you find a design that you think is novel, you  
12 confirm that with a patent search, what do you do next?

13 A. Yes. If the attorney comes back and says that he hasn't  
14 found anything and that it should go forward, then we'll work  
15 together with the attorney on the claim language that gets  
16 submitted to the patent office and then there's often  
17 questions from the patent office for clarification that --  
18 we'll work through those issues and then eventually they'll --  
19 they'll get the patent through and we get awarded the patent.

20 Q. How many patents does -- active patents does ULT have on  
21 lighting ballasts?

22 A. Seventy-five right now.

23 Q. Do some of those 75 patents apply to the technology used  
24 in the ballasts that are at issue in this case?

25 A. Yes. Yes. Having reviewed the -- the accused products,

1 there are four specific patents we have that are covering  
2 those products.

3 Q. Okay. I'm going to ask you to look at what we have up in  
4 front of us on here the accused products broken down. Is  
5 there a patent that applies to the B 254 -- the B 254 PUNV-D.  
6 Is there a patent that ULT holds that applies to that?

7 A. Yes. I don't -- I don't recall the entire number, but the  
8 last three digits are 660. That's Ruha Sheed did that  
9 disclosure.

10 Q. The 660 patent applies. Does that patent cover shut down  
11 circuitry?

12 A. Yes. It has multiple shut down circuits. It -- I'm  
13 sorry. That was Anthony Blair, not Ruha Sheed. It covers  
14 end-of-life shut down and it's -- it's an IC based product as  
15 well.

16 MR. ROUTH: Your Honor, if I may approach the  
17 witness.

18 BY MR. ROUTH:

19 Q. Mr. Berry, I'm going to give you a binder. There are  
20 documents in there that I may ask you about. Let me ask you  
21 to first turn to Joint Exhibit 65 which should be at tab 2 of  
22 the binder.

23 A. Yes. Okay. Yes.

24 Q. Is this the 660 patent you were just talking about?

25 A. Yes. In fact, Sheed is on there as well, the first in the

1 name -- in the line of inventors is Anthony Blair.

2 Q. You're referring to Blair and Sheed and Shackle. Were  
3 they all at one time ULT engineers?

4 A. Yes, they were. Two of those gentlemen were there when I  
5 was up there.

6 Q. And does the 660 patent which you said covers the shut  
7 down circuitry of that B 254 ballast, does it cite to the '529  
8 patent?

9 A. Yes, it does. Yes. And there are probably ten or fifteen  
10 others listed.

11 Q. Is the 660 patent different from the '529 patent?

12 A. Yes.

13 Q. We've heard testimony and questions about improvements  
14 over other patents. What's the difference between the design,  
15 speaking to you now as an engineer between -- Excuse me,  
16 speaking as president of engineering, what's the difference  
17 between the design of the Bobel patent and the design that's  
18 panted in the 660 patent?

19 MR. SUDER: Objection, Your Honor. This witness has  
20 not been disclosed in disclosures to discuss the '529 patent  
21 or any differences between ULT patents and the '529 patent.  
22 He was identified in a very limited capacity to talk about how  
23 these products operate. He did not supply the claims, did he  
24 not submit a report, any of that sort, so to go into this is  
25 improper.

1           **MR. ROUTH:** Your Honor, this witness has been  
2 designated as an expert and the Court has accepted him as such  
3 with the limitations the Court put.

4           **THE COURT:** Well, has he previously disclosed that he  
5 was going to opine on the differences between the '529 patent  
6 and that's --

7           **MR. ROUTH:** I'm not going to ask him to opine. I  
8 want him to describe the -- as -- as a person knowledgeable of  
9 the technology.

10           **MR. SUDER:** Your Honor, we had a motion in limine  
11 about witnesses that are employees that are also identified as  
12 experts and you said they could talk about their products and  
13 that's it, this their expertise. Comparing it to the '529 is  
14 way beyond it.

15           **MR. ROUTH:** As I remember it, Your Honor, they have  
16 to testify based on their knowledge from their work at ULT and  
17 everything Mr. Berry is going to tell you would fit right  
18 within that.

19           **THE COURT:** All right. Overruled.

20 **BY MR. ROUTH:**

21 Q. Mr. Berry, again, I want to take this opportunity to say  
22 I'm not asking to you opine as a legal matter. What I'm  
23 asking you, you know the design of the 660 patent that's used  
24 in the B 254 product as you know the product, right?

25 A. Yes.

1 Q. And you know the design of the '529 patent, correct?

2 A. Yes.

3 Q. Tell us about the design of the 660 patent with that in  
4 mind.

5 A. The 660 covers, again, a product like the 254 that is a IC  
6 driven half bridge product topology. It uses MOSFETs for  
7 switching devices. The '529 patent, the product described  
8 there is a self-oscillating circuit, not a driven circuit. It  
9 uses bi-polar transistors as opposed to MOSFETs.

10 This product described in 660 will actually draw  
11 power if the shut down circuits have been activated and it's  
12 clear in the '529 patent that no power would be drawn by that  
13 product when the shut down is activated.

14 This product is a program start product and the '529  
15 covers a rapid start product and there's significant  
16 difference between the two from a lamp life standpoint.

17 **THE COURT:** And how is it that you know that?

18 **THE WITNESS:** The -- the program start?

19 **THE COURT:** How do you know those differences?

20 **THE WITNESS:** Just my training and experience as an  
21 engineer. They're evident by review of the schematic.

22 **THE COURT:** As an engineer -- what? They are evident  
23 by --

24 **THE WITNESS:** By reviewing the schematic.

25 **THE COURT:** When did you review the schematic to make

1 this determination?

2           **THE WITNESS:** I first reviewed this in late 2005  
3 after we received the letter from Bobel.

4           **THE COURT:** So you didn't -- Okay. Well, I'm  
5 sustaining the objection. That's not -- he is permitted to  
6 testify to information that he uses in the duties in  
7 connection with his job description. If he is opining for  
8 litigation purposes about the difference between the two, then  
9 he is an expert that the rules require a report from.

10           **MR. ROUTH:** Two points, Your Honor. I'll only make  
11 the first one. He reviewed this in 2005 not for litigation  
12 but for purposes of clearing this as part of the company's due  
13 diligence to make sure that they had a patent, they had a  
14 letter and they were going forward on a solid basis. It was  
15 completely part of his job responsibilities, not part of this  
16 litigation, and he reviewed it in order to say do we have  
17 designs which are different so that we can go forward with  
18 manufacturing.

19           I don't mean to suggest to the Court or the jury that  
20 Mr. Berry's distinctions are ones that govern legally. They  
21 are very relevant to the claim of willful infringement and the  
22 fact that in 2005 he undertook to analyze our products and to  
23 come up with these differences so that he could satisfy  
24 himself and his supervisors that we had products that did not  
25 infringe and have an objective basis goes directly to an issue



1 in this case and is really the only way an engineer -- only  
2 way you could do the job you're supposed to do in looking at  
3 these issues from the purposes of evaluating potential  
4 infringement.

5 **MR. SUDER:** Your Honor, I have two points. One,  
6 all -- all Mr. Routh said is that they were threatened with  
7 litigation. This was a threat, and they took it as a threat.

8 The other point is, Your Honor, this is not disclosed  
9 within his knowledge in any of the disclosures. Even if he is  
10 listed as an expert, he is listed as a person with knowledge  
11 of relevant facts of certain things. This was not one of the  
12 things he was identified as having knowledge of, Your Honor.  
13 It's also now prejudice here.

14 **MR. ROUTH:** On that point, Your Honor, we've had a  
15 number of issues come up that I won't go into of disclosure  
16 and witnesses.

17 I don't have his disclosure in front of us. Do you  
18 have it?

19 **MR. SUDER:** Yes, I do. Mr. Berry's design  
20 engineering and operation of ULT's lighting ballast products,  
21 ULT's awareness of the patent in suit, and ULT's efforts to  
22 avoid infringement of the patent in suit.

23 **THE COURT:** Okay. I'll overrule the objection.

24 **MR. ROUTH:** Thank you.

25 **BY MR. ROUTH:**

1 Q. Mr. Berry, I apologize. Maybe I should have set this up a  
2 little differently. When did you first look at ULT's products  
3 and the '529 patent?

4 A. Related to the '529?

5 Q. Yes.

6 A. That was in 2005 after we received the letter.

7 Q. And was it your responsibility working with the patent to  
8 maybe make an evaluation of whether or not ULT's products, the  
9 one that Mr. Bobel's lawyer had listed in a letter, whether  
10 they were not ones that infringed and so we could keep  
11 manufacturing?

12 A. Yes. Yes. And I'd been -- at that time I had been with  
13 the company for just nine months and so I wasn't familiar with  
14 some of the history and I so I approached Chris Radzinski  
15 who's the chairman of our patent committee and asked him about  
16 this specific patent and he was aware of it and it had been  
17 discussed before and he said certainly that they were aware --

18 MR. SUDER: Excuse me, Your Honor. Whatever  
19 Mr. Radzinski told this witness is hearsay. I would ask that  
20 not be part of his answer.

21 THE COURT: Sustained.

22 BY MR. ROUTH:

23 Q. Mr. Berry, did you in making a determination of whether  
24 ULT's products practice the '529 patent, did gather  
25 information from other engineers in considering it?

1 A. Yes.

2 Q. And with the information -- was that information  
3 information about the company's evaluation prior to your  
4 arriving at ULT sometime nine months before Mr. Bobel's  
5 lawyer's letter arrived?

6 A. Yes. It was -- it was based on their history, this --  
7 this patent has been disclosed in our own patents for some  
8 time.

9 Q. And so you gathered that information and learned what you  
10 could from the company and then you did an evaluation yourself  
11 of ULT's products, the products Mr. Bobel's lawyer accuse, and  
12 ULT's patents to make some assessment of whether you could  
13 conclude there was a good faith basis for going forward with  
14 manufacturing?

15 A. That's correct.

16 Q. And in that context, I understood you to say you looked at  
17 the 660 patent and the design of the 660 patent and the design  
18 of the '529 patent. What conclusion did you reach?

19 A. That -- that there were -- there were no similarities  
20 between the '529 and the product of -- the product here.

21 Q. Now, you listed some reasons or some differences that you  
22 saw between the two designs. Have you completed your listing  
23 of what you -- what you've looked at as considering being  
24 significant differences between the '529 and the design of the  
25 660?

1 A. I believe the -- the things that I mentioned earlier cover  
2 those differences.

3 Q. One of the things you mentioned was that the design in the  
4 660 and the products that use it -- do all of the products in  
5 that first linear group use the design of the 660?

6 A. Yes. Yes.

7 Q. So, those products you said would draw power even after  
8 there's been a shut down or -- the shut down circuit has been  
9 effected. Is that right?

10 A. Yes.

11 Q. Tell us what you mean when you say continues to draw  
12 power?

13 A. Well, the -- when you turn something off, if there's no  
14 current flowing, then, basically, there's no power. If that  
15 were the only thing on your electrical meter at home, you  
16 wouldn't get a bill at the end of the month.

17 If it does draw power, well, then -- some electricity  
18 is being provided to the product. It is taking some of that  
19 electricity and you would get a bill. That's the basic  
20 difference is the -- energy center efficiency. I think this  
21 was something highlighted in the '529 as a benefit.

22 Q. Is there a reason why the 660 patent, the design used in  
23 that and all the products in the linear 1 group, is there a  
24 reason why those products can continue to draw power?

25 A. It's just a -- it's just the nature of the topology used.

1 Q. What's the title of the 660 patent?

2 A. IC-based low cost reliable electronic ballast with  
3 multiple striking attempts and end-of-life protection.

4 Q. In that title what does the IC at the beginning of the  
5 title stand for?

6 A. Integrated circuit.

7 Q. Is this a ballast specifically designed to make use of  
8 integrated circuits?

9 A. Yes, it is.

10 Q. You mentioned one of the distinguishing features of this  
11 ballast or this design used in these ballasts is they are a  
12 program start. Is that correct?

13 A. That's correct.

14 Q. And we've heard discussion of program start, rapid start,  
15 at least the general levels. Can you explain to us what those  
16 two things are?

17 A. I could start with -- there's an instant start designation  
18 as well.

19 Q. Okay.

20 A. And when you instant start a lamp -- are we -- I guess  
21 everyone is familiar with lamp top construction?

22 Q. I'm sorry?

23 A. Lamp construction --

24 Q. Yes.

25 A. -- has that been discussed at a --

1 Q. Well, there's been a discussion of lamps, yes.

2 A. Okay. So, the lamp has a filament at each end and  
3 in-between is gas. If you put a very high voltage across  
4 those two ends, the gas will ionize and you will get an arc  
5 and you will get light. If you just apply the high voltage,  
6 you damage those filaments each time you strike the lamp and  
7 so the lamp life will be short.

8 They discovered later that if you heat the filaments,  
9 that you can improve that lamp life. The first, let's say,  
10 generation of this understanding was rapid start. And,  
11 basically, they would apply voltage to the filaments to heat  
12 them. About the same time they were applying the high voltage  
13 across the lamp. That improved lamp life slightly.

14 Later, maybe in the late 90s, they discovered that if  
15 you heat the filament a little bit longer to a certain level,  
16 that you could almost eliminate the degradation to the  
17 filaments and now you get significant lamp life. And those  
18 products are called program start.

19 Q. You indicated in your mind the fact that the 660 patent  
20 had a program start and the '529 patent called for a rapid  
21 start was a difference that was significant to you in what  
22 ways?

23 A. Well, the implementation of a -- to design a program start  
24 is more complicated, requires a different structure, than is  
25 shown in the '529 patent.

1 Q. Is there anything other than -- that is more complex in  
2 terms of the way it operates that makes a difference?

3 A. No, I think complexity sums it up. You have to heat those  
4 filaments with a certain voltage for a certain amount of time  
5 before you strike the lamp.

6 Q. Is the integrated circuit in the 660 design used in  
7 connection with the program start?

8 A. Yes. It has -- the IC supports functionality that allows  
9 you to have such designs reliably and cost effectively.

10 Q. Are there any other groups of products that are -- that  
11 use the design of the 660 patent?

12 A. I believe in these groups that that is the only one -- the  
13 only one group that uses technology described in 660.

14 Q. Let me ask you to turn back to tab 1 of your notebook and  
15 ask what's the patent there?

16 A. I'm sorry. Which tab?

17 Q. I think it's behind the first tab and it has the exhibit  
18 number on it DTX 341.

19 MR. ROUTH: For the record, the -- the 660 patent  
20 that we looked at, Your Honor, was Joint Exhibit No. 65.

21 A. I don't -- I don't have that one behind my first tab.

22 Q. I apologize. That was left out. I'll bring you -- I  
23 think we have the original copy of this one. We decided to  
24 bring that one to you.

25 A. All right. Yeah. This is the 652 patent. Ruha Sheed.

1 Q. And you're familiar with this patent?

2 A. Yes.

3 Q. It's one you considered in 2005 in evaluating Mr. Bobel's  
4 lawyer's letter?

5 A. Yes.

6 Q. What's the patent number on this, sir?

7 A. 7015652.

8 Q. So, we're referring to this as the 652 patent?

9 A. Okay.

10 Q. Is the 652 patent -- is the design of the 652 patent, is  
11 it used in any of the ULT products or accused in the case?

12 A. There are two groups that use the product described here.

13 Q. Okay.

14 A. The compact groups --

15 Q. Both of the compact groups?

16 A. Both of the compact groups. There's one represented by  
17 the C 2642 and the C 213 UNV.

18 Q. I'm going to write on here 652. Those would be the  
19 representative products that you just identified are the C  
20 2642 and the C 213. Is that right?

21 A. That's correct.

22 Q. And they represent the other products in those groups,  
23 correct?

24 A. Yes.

25 Q. And did you evaluate those products that use the 652



1 microprocessor control ballasts.

2 Q. Now, you're referring to the 990 patent, which is behind  
3 tab 4 of your binder?

4 A. Yes. 990 and -- ESI did several patents -- but the 990  
5 covers, let's say, is the broadest.

6 Q. Give me a moment. I'm marking.

7 A. I'm having trouble with the binder, too.

8 Q. I put the 990 up next to ES 4800 or 4800 A. Is your  
9 understanding that the ES 4800 A is the representative product  
10 for this whole microprocessor group?

11 A. Yes.

12 Q. Tell the jury what is it about the 990 patent that you  
13 took into account in considering the '529 patent?

14 A. Well, in general, this -- this is -- this was a fairly  
15 unique idea at the time when ESI designed these products using  
16 the microprocessor to drive the circuits and also to do more  
17 complex things with the data they could take from the ballast  
18 at a point in time. I think it turned things off. They could  
19 look at different points and shut down if the rail voltage got  
20 too high, things that you can do with a microprocessor. These  
21 products, the ESI products actually have software written  
22 specifically for them and for these actions: Start up, shut  
23 down, and so forth.

24 Q. That's different than the design of the '529 patent?

25 A. Yes.

1 Q. Do the ballasts that use the 990 patent operate in a  
2 manner that's different from the '529 patent?

3 A. I'm sorry. Repeat.

4 Q. Do ballasts that make use of the design of 990 patent, do  
5 they have a different form of operation, do they have  
6 different ways and do things like you said the restrike  
7 attempts and --

8 A. Certainly. Like the other products we've discussed,  
9 there's a driver that -- it's a driven topology. It's not a  
10 self-oscillating topology. It uses MOSFETs in the circuit  
11 instead of bi-polars. It will draw power where products  
12 defined in the '529 will not.

13 Q. Now, I -- I'm going to jump ahead from where I planned to  
14 be because we actually got into it earlier and then I may come  
15 back. But what I'm jumping ahead to is the Bobel letter. And  
16 I want to make sure that we've covered -- both the letter  
17 Mr. Bobel sent to -- or Mr. Bobel's lawyer sent to ULT is  
18 Joint Exhibit 51?

19 A. Okay.

20 Q. I'm looking for that in the binder. It's behind tab 9.

21 A. That's 51?

22 Q. Yes. It says the -- the exhibit at tab 9 says at the  
23 bottom right corner Joint Exhibit 51?

24 A. It's not behind tab 9, but I have it.

25 Q. I apologize. Your binder is tabbed a little differently

1 than mine .

2 A. Yes, it is.

3 Q. Have you found Joint Exhibit No. 51?

4 A. Yes, I have.

5 Q. Is this the letter that you became aware of in 2005?

6 A. I became aware of this letter. Our CFO at the time, Jeff  
7 Barrant, forwarded this letter to me. .

8 Q. And were you asked then to take charge of at least an  
9 internal review of this matter?

10 A. Yes.

11 Q. What did do you?

12 A. Well, first we assembled an understanding -- understanding  
13 the '529 patent and assembled what we thought would be the,  
14 let's say the targeted -- targeted products. And those are  
15 the products we began looking at.

16 Q. And you've described to us how you reviewed ULT designs  
17 that had been patented over the '529 patent. Is that correct?

18 A. Right. Right.

19 Q. Was there anything else you did personally in  
20 investigating this matter?

21 A. No. I was aware of some things with our attorney, but  
22 personally this investigation was on.

23 Q. And you said you had talked with people who had been  
24 involved at ULT before you had -- you came to the firm or to  
25 the company. Is that right?

1 A. That's right.

2 Q. And those people, I think we'll let them speak to what had  
3 been done before you came. Okay?

4 A. Okay.

5 Q. Based on your review of the matter, did you reach a  
6 conclusion as to whether ULT products that were accused of  
7 infringement did or did not make use of the Bobel '529 patent?

8 A. Yes. Personally, my conclusion was that our products did  
9 not infringe.

10 Q. Did you share that conclusion with others at ULT?

11 A. Yes, the people involved with receiving this letter and so  
12 forth. Yes.

13 Q. Did anyone have a different view?

14 A. No.

15 Q. When you received the letter from Mr. Bobel's attorneys,  
16 one of the letters had a long list of products. Is that  
17 correct?

18 A. Yeah. There was the -- the original list, if I recall.  
19 We were accused of infringing on eleven claims and maybe 135,  
20 139 products.

21 Q. And did you go through all of those products and all of  
22 those claims and make that determination?

23 A. Much like has happened with this -- in preparation for the  
24 trial, we -- we grouped those into -- we put those in groups  
25 --

1 Q. Uh-huh.

2 A. -- because there are a lot of similarities with these  
3 products.

4 Q. Were you able to conclude, not just with respect to the 40  
5 products or so that remain in the case, but with respect to  
6 all the products Mr. Bobel's attorneys brought to your  
7 attention, all the claims that ULT in your judgment wasn't  
8 infringing any of the claims with any of its products?

9 A. Right. Yes.

10 Q. Did you make a similar review of the list of accused  
11 products that we received from plaintiff's counsel in this  
12 case at the beginning of the case?

13 A. Yes. In a similar manner --

14 MR. SUDER: Excuse me, Your Honor. This is now  
15 getting afield.

16 THE COURT: Sustained.

17 BY MR. ROUTH:

18 Q. I want to step back and talk a little bit about ULT's  
19 products. Do all of -- tell me which of ULT's products make  
20 use of integrated circuits?

21 A. Well, it's primarily on our more complex products, the  
22 program start products that I mentioned are a little more  
23 complex. We have an IC inside. We also design and  
24 manufacture dimming products. Those products have ICs inside.  
25 The simple instant start products that we still sell a lot of

1 do not use ICs on the inverter side, which is the area we're  
2 talking about. Many still use a PFC IC on the front -- on the  
3 front of the product.

4 Q. Do all of the products that are accused of the  
5 infringement in this case use an integrated circuit or a  
6 microcontroller?

7 A. Yes.

8 Q. Are you familiar with the integrated circuits and  
9 microcontrollers that are used by any of the products accused  
10 in this case?

11 A. Yes.

12 Q. Do you have responsibility for ensuring a good supply of  
13 such products?

14 A. Right. Right. We -- we use primarily two or three ICs in  
15 the inverter. ST Micro and NXP are the two primary ones.

16 Q. Do you have Defendant's Trial Exhibit 308 in your binder?  
17 For the record --

18 **MR. ROUTH:** The for the record, the document I'm  
19 asking the witness for is part of the -- if can I approach the  
20 witness, Your Honor?

21 A. Thank you.

22 **BY MR. ROUTH:**

23 Q. I'm going to hand the witness the data sheet. This is  
24 part of Joint Exhibit 89, but Joint Exhibit 89 has a lot of  
25 other material in it. Mr. Berry, I just want to you look at

1 this portion of it. It's the data sheet for the L 6470 --  
2 6574. Excuse me. The L 6574 LC micro IC.

3 A. Okay.

4 Q. Are you familiar with this?

5 A. Yes.

6 Q. Let me ask you to look at the block diagram that's on the  
7 cover page of the data sheet. Do you see that?

8 A. Yes, sir.

9 Q. Is this something you deal with in your ordinary work at  
10 ULT?

11 A. Yes.

12 Q. Tell us what that is?

13 A. It's the -- it's a block diagram for the operation of  
14 the -- of the IC in question. It shows the connections  
15 between the IC and all the external devices.

16 Q. Does this show you the circuitry inside of the IC?

17 A. No, not the -- not the discrete circuitry, no.

18 Q. When you say discrete circuitry, what type of circuitry is  
19 in an IC?

20 A. The ICs are composed in a laboratory environment. Your  
21 etching of silicon and it's -- it's much different than  
22 construction of most discrete devices. But, anyway, if you  
23 were to show the devices in here, it would take a very large  
24 page.

25 Q. What role does the integrated circuit play in the control

1 of the ballast?

2 A. It's significant because it does a lot of the -- it  
3 handles a lot of the functionality of the ballast. It handles  
4 the -- how long you preheat those filaments. You can control  
5 the voltage across those filaments, so you make sure they're  
6 the right temperature before you strike the a lamp. It  
7 controls your run up frequency before you strike the lamp.  
8 And it has the shut down pins that are shown in the bottom  
9 right-hand part of the block diagram.

10 Q. You are referring to the bottom right-hand -- this is down  
11 in here?

12 A. Yes.

13 Q. And I think it's hard to read on the screen. I'm not sure  
14 -- Let me move that up. I'm still not sure if it's readable.  
15 It says EN 1 and EN 2. Are you familiar with that?

16 A. Right. Yes.

17 Q. I think you said earlier those are the two different shut  
18 down pins on this IC?

19 A. Yes. EN 1 is what we call a hard shut down. If you send  
20 a signal to EN 1, the logic inside of the chip will in a safe  
21 way shut down the output side which is at the top right.

22 Q. So, there are two options for how you shut down the --

23 A. Right. Right. There's EN 1, the shut down. And EN 2 is  
24 basically a restrike. So, if you are having trouble with the  
25 start up or any -- you can even run a temperature sense,



1 whatever, to this pin, you could reinitiate the striking. And  
2 this is how we do -- we initiate multiple restrikes through  
3 this pin.

4 Q. Is the L 6574 ST Micro integrated circuit one that's used  
5 in ULT products?

6 A. Yes. It's used in the group 1 products, it's used in the  
7 CFL products, and the group 2 product products, I believe.

8 Q. To what extent does the use of an IC with pins like the  
9 EI 1 and EI 2 pin provide more precise control in the ballast  
10 as compared to the kind of discrete circuitry of the '529  
11 patent?

12 A. Well, ICs by their nature are more repeatable from a  
13 manufacturing standpoint, so you get more reliability. This  
14 IC will -- that you get off the front of the line will be  
15 exactly as the IC on the back end of the line, so you have  
16 repeatability, reliability when you're using ICs, and they  
17 also react quicker, faster to signals coming from the outside.

18 Q. Are they more precise in sensing voltage or current  
19 changes so that you get more precise reactions?

20 A. I would -- in some cases, maybe. Related to that I would  
21 say they are more efficient.

22 Q. What do you mean by that? In what way are they more  
23 efficient?

24 A. They draw less power -- significantly less power than the  
25 name number of discrete components doing that function would

1 draw.

2 Q. When you talk about discrete components, how are discrete  
3 components connected?

4 A. Discrete components are placed on a circuit board and then  
5 the circuit board is run through a wave solder machine or a  
6 reflow solder machine to basically connect one discrete  
7 component to the next through the copper on the circuit board.

8 Q. Do the ICs permit -- You talk about greater precision  
9 and greater efficiency. Do they permit greater flexibility?

10 A. Certainly, if you consider the constraints of the size --  
11 size, cost, and performance, yes.

12 Q. Do the ICs and microcontrollers in ULT products allow for  
13 sensing of different conditions in variable reactions to  
14 different conditions?

15 A. Yes.

16 Q. Okay. Tell us -- I just used a lot of words. Tell us  
17 what that means.

18 A. Well, it's -- as it's described in the 652 patent, for  
19 example, we detect over current, we detect overheating, we  
20 detect overvoltage and we can react to any of those by  
21 restriking the ballast, potentially, or shutting the ballast  
22 down.

23 Q. So, your option isn't simply shut down or stay on, you've  
24 got different modes to react or different ways of reacting?

25 A. That's right. That's right. And with the ESI products

1 and the microprocessor, there are even more possibilities  
2 because you can program it to do whatever you want it to do.

3 Q. Do you know in your products what types of failure modes  
4 result in high voltage or overvoltage or overcurrent?

5 A. Yes.

6 Q. What?

7 A. Typically -- with the -- with the temperature, it could be  
8 the environment.

9 Q. Uh-huh?

10 A. But typically, it has something to do with what's  
11 happening with the load and when I say the load I'm talking  
12 about the lamps outside. Are the lamps aging? Has somebody  
13 pull a lamp out. Did a lamp de-gas, which is what happens  
14 when they -- when they get old. If these things happen, then  
15 the output, of course, is changed and the ballast understands  
16 that and you need to react to that in some way.

17 Q. I'm going to ask you to see if you can find in your binder  
18 Joint Exhibit 182. The NEMA document.

19 A. Okay. Yes. 182?

20 Q. Yes. Joint Exhibit 182.

21 A. Okay. Yes.

22 Q. You are familiar with that document?

23 A. Yes.

24 Q. What is it?

25 A. It's a guideline from NEMA. NEMA is the -- it's the

1 National Electrical Manufacturers Association and this  
2 document describes switching lamps on and off and how that  
3 switching impacts the life of those lamps.

4 Q. How do you use this document or the standards of this  
5 document in your work?

6 A. Well, we use this -- this guideline and in standards from  
7 ANSI to -- to -- as guidelines for design of our product.

8 Q. When you say ANSI, what is that?

9 A. That's the American National Standards Institute.

10 Q. And how do these standards affect your design work?

11 A. Well, standards are necessary because you're connecting a  
12 ballast to a lamp and one company, A, may develop and  
13 manufacture a lamp, company B may manufacture the ballast and  
14 those two things have to work together so you have to have  
15 standards to describe how those things work together so we can  
16 design the ballasts that work with the lamps and they can  
17 design lamps that work with our ballasts. So, that's the --  
18 that's the purpose of standardization. This particular one  
19 talks about instant start versus rapid start and program  
20 start.

21 Q. You discussed and described for us earlier the difference  
22 between those different kind of starting mechanisms. Does NEMA  
23 make a distinction between those three types of starting  
24 modes?

25 A. Yes.

1 Q. In what way?

2 A. Shall I -- Do you want me to read the -- or just say?

3 Q. It's up to you if you can just tell us what the --  
4 summarize what NEMA has said.

5 A. Instant start ballasts are very efficient. They don't --  
6 when you -- when you heat the filaments, as I've mentioned,  
7 that takes some energy, some power. If you don't do that,  
8 well, then, you know, you can -- you can save money on your  
9 power and that will work out as long as you're not striking  
10 the lamps many times. Sometimes lamps are struck 15 or 20  
11 times a day if it's in a room with an occupancy sensor,  
12 something like that. So, depending upon how often you're  
13 striking the lamps, you can make your decision on which  
14 ballast you want to use. If you're not striking lamps very  
15 often, you can use instant start and you can save the power  
16 and if you're striking the lamps a lot, you'll use program  
17 start so you don't have to replace the lamp so often.

18 There's also a -- as I mentioned earlier, the  
19 evolution from instant to rapid to program start. What they  
20 say about rapid start is rapid start ballasts are not as  
21 efficient as instant start ballasts due to additional filament  
22 heating power supplied to the lamp. Although this additional  
23 filament heating can produce longer lamp life in applications  
24 where lamp striking occurs less often than every three hours.  
25 Like the instant start ballasts, they are recommended for

1 applications with switching frequencies of less than 5 cycles  
2 per day.

3 They talk about the degradation to the electrodes  
4 that I mentioned. And then on program start, they say program  
5 start ballasts provide the best lamp ignition and longest lamp  
6 life. In a program start ballast, electrodes are preheated  
7 prior to admission resulting in almost no electrode  
8 degradation. And then there's a graph that shows the  
9 differences.

10 MR. ROUTH: I'm going to move for the admission of --  
11 actually, it's a Joint Exhibit 122. We just put up a  
12 different page.

13 BY MR. ROUTH:

14 Q. Is this the section of the report you are talking about  
15 where they say there are three different types of ballasts?

16 A. Right.

17 Q. An instant start, rapid start -- and go to the next  
18 page -- program start ballasts?

19 A. That's right.

20 Q. Okay. What does the table below that show?

21 A. It shows the -- the lamp life that you would -- you would  
22 have in hours for the different types, perhaps not -- not very  
23 clear, but basically it shows that you get longer lamp life  
24 using program start ballasts than rapid start or instant  
25 start.

1 Q. Mr. Berry, you're familiar with a recent Department of  
2 Energy regulation that addresses these different starting  
3 modes as well?

4 A. Yes. They have a notice that's being considered right  
5 now.

6 Q. Let me ask you to look in your binder and see if you see  
7 Defendant's Exhibit 328? Mr. Berry, I'm going to approach and  
8 just hand it to you. It may make it quicker.

9 A. Okay.

10 Q. If you would tell us what Defendant's Exhibit 328 is?

11 A. The Department of Energy is working on setting efficiency  
12 standards for ballasts. They want to set those standards high  
13 enough that they begin to see less energy used for lighting in  
14 the U.S.

15 Q. Have you had any involvement in the setting of these  
16 standards at the Department of Energy?

17 A. I have had some involvement. I had a group led by  
18 Tom Poehlman who has been working providing numbers to the  
19 Department of Energy for their consideration.

20 Q. Does the Department of Energy make a distinction between  
21 the instant start, rapid start, and program start modes of  
22 starting ballasts?

23 A. Yes.

24 Q. And is that something that's set forth in the proposed  
25 rule making?

1 A. It is.

2 MR. ROUTH: Your Honor, I'm going to move the  
3 admission of Defendant's Exhibit 328.

4 MR. SUDER: No objection, Your Honor.

5 THE COURT: It will be admitted.

6 (Admitted in Evidence as Defendant's Exhibit 328.

7 BY MR. ROUTH:

8 Q. In implementing a program start, what portion of the  
9 ballast is most important in order to be able to do that  
10 effectively?

11 A. I'm -- I'm sorry.

12 Q. You're not following me. What role does the control means  
13 or the control circuitry of the ballast play in the program  
14 start?

15 A. The control -- in the program start or in the --

16 Q. Yes.

17 A. -- instant start?

18 Q. Well, in all three types of the starting of the ballasts.

19 A. We typically -- depending on the lamp that's being  
20 supported, we may not have shut down circuits in the T 8  
21 product. For example, T 8 is a lamp -- common lamp size. We  
22 may not have shut down circuits in those. With program start  
23 products and typically you want a program start a T 5 lamp,  
24 it's just common, then we have shut down circuits.

25 Q. And is there -- Do you need integrated circuit to do that?



1 A. To --

2 Q. To use a program start in that type of ballast?

3 A. You can implement a program start ballast without an  
4 integrated circuit.

5 Q. Does an integrated circuit provide any benefits in  
6 implementing a program start design?

7 A. Yeah. It's from a -- from a size and cost standpoint and  
8 from the time to market standpoint. The IC adds a lot. It  
9 would take us longer to develop those products and those  
10 products would be larger than they are today.

11 Q. Does ULT do testing of its ballast products?

12 A. We test every product we manufacture before the -- before  
13 it's shipped.

14 Q. Okay. Where is that testing done?

15 A. In our factory.

16 Q. And where is that?

17 A. In Matamoros, Mexico.

18 Q. Is there any testing done in the United States of ULT  
19 products by ULT?

20 A. We do validation testing to validate the designs.

21 Q. And where is that done?

22 A. That's in Huntsville, Alabama.

23 Q. And when you're doing that kind of validation testing to  
24 validate your designs, are you doing it on all the products  
25 that you sell?

1 A. For validation, just the particular design.

2 Q. How -- So would a relatively small number of ballasts and  
3 lamps be involved in doing that type of testing?

4 A. Yes.

5 Q. Okay. Does ULT sell any ballasts that have -- when they  
6 sell them, have the output terminal of the ballast connected  
7 to the lamps or lamp fixtures?

8 A. No.

9 Q. Are there any lamps not sold by ULT but by anybody that  
10 connect the filaments of the ballast to -- Excuse me -- the  
11 output terminals of the ballast to the filaments of the lamps  
12 at the time they're sold?

13 A. I -- the one I'm aware of is compact fluorescent. If  
14 you -- if you go to the Home Depot and you find the -- the  
15 little swirl -- little swirl lamp, the fluorescent lamp, they  
16 usually have an integrated ballast in the bottom, so in that  
17 case they be sold connected and there may be other  
18 applications like marine and duty lamps for, you know -- shop  
19 lamps that have that as well, but I can't say any one  
20 specific.

21 Q. And so in those lamps the ballast would be actually  
22 connected through the output terminals of the filaments of the  
23 lamp as a single component in sales. Is that right?

24 A. Yes.

25 MR. ROUTH: Your Honor, I have nothing further for

1     there witness.

2                 **THE COURT:** All right. We'll go ahead and take our  
3     afternoon break at this time. We'll have a fifteen minute  
4     break and we'll be back out here in fifteen minutes.

5                 (Recess.)  
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**Trial Transcript, Volume D, Dated June 15, 2011**

1 MR. SUDER: Your Honor, at some point can you tell  
2 us what the time record you have that shows so we can get a  
3 sense?

4 THE COURT: Okay. At the lunch break, which does  
5 not include what we just did, you have used 11 hours and 2  
6 minutes and you have used 5 hours and 38 minutes at the lunch  
7 break. So you have crossed for about 11 minutes. I will  
8 update you at the end of the day.

9 MR. SUDER: Judge, do opening and closing count?

10 THE COURT: No.

11 MR. ROUTH: Your Honor, I sent an email to  
12 Mr. Hesterman to see if he can come earlier. I have not  
13 gotten a response, but we will look into that, Your Honor.

14 THE COURT: Okay. Thank you.

15 (Whereupon, the jury entered the courtroom.)

16 THE COURT: Mr. Suder?

17 MR. SUDER: Yes, thank you, Your Honor.

18 CROSS EXAMINATION

19 By Mr. Suder:

20 Q. Mr. Berry, my name is John Suder. We haven't met, have  
21 we?

22 A. No.

23 Q. I have a few questions for you. You joined Universal  
24 2005, you said in January?

25 A. January 2005.

1 Q. What did you do before then?

2 A. I was director of engineering for a company called Andrew  
3 Corporation. They do telecommunications.

4 Q. It wasn't a lighting ballast company?

'5 A. No.

6 Q. Had you any experience with lighting and ballasts before  
7 you joined Universal?

8 A. No.

9 Q. And are you the named inventor on any patents, sir?

10 A. No.

11 Q. And have you participated in the patent process at all  
12 prior to joining Universal?

13 A. Yes.

14 Q. What was that?

15 A. At Ericsson Corporation I actually had conceived an idea  
16 for a patent with infrared location, and went through the  
17 process with Ericsson's attorneys to have that patent filed,  
18 but left the company, and I think they abandoned the patent  
19 thereafter because I haven't been able to locate it.

20 Q. So they abandoned that patent?

21 A. Yes.

22 Q. Had you had any experience with patent infringement  
23 before joining Universal?

24 A. No.

25 Q. So you didn't know how to read, apply, or do anything

1 with the patent before you got to Universal?

2 A. No. When I was at Ericsson we were basically educated on  
3 the patent process and how to do that. Ericsson holds many  
4 patents as well.

5 Q. So we and the jury understands, prior to January of 2005  
6 you hadn't worked with lighting and ballast electronic  
7 ballasts?

8 A. No.

9 Q. Okay. Never took one, open it up and looked at the  
10 circuit?

11 A. No.

12 Q. Never looked at the schematic?

13 A. Not that I recall, no.

14 Q. Okay. Now, in 2005 when you joined Universal, were you  
15 immediately put on the patent committee?

16 A. No.

17 Q. Okay. Were you on the patent committee in 2005?

18 A. Not in 2005.

19 Q. Okay. So when you did all this work, who gave you the  
20 assignment in 2005 to study Mr. Bobel's patent?

21 A. Well, the way we are structured, I am responsible for  
22 engineering. Basically the chairman of the patent committee  
23 reports to me, and so being responsible for engineering and  
24 the patent committee, and I took it upon myself to follow up  
25 with this problem.

1 Q. So you were in charge of the patent committee?

2 A. The patent committee reported to me, yes.

3 Q. So the patent committee reported to you and you had no  
4 experience with electronic ballast patents.

5 A. Nope.

6 Q. Had you ever worked with the patent committee on  
7 developing their inventions prior to the work you did on  
8 Mr. Bobel's patent?

9 A. Could you repeat that?

10 Q. Had you ever even studied an electronic ballast patent  
11 prior to looking at Mr. Bobel's patent?

12 A. I had not studied ballasts, no.

13 Q. Okay. So Mr. Bobel's patent, the '529 -- when  
14 Mr. Sullivan got his letter from Mr. Bobel that said, "We  
15 think you are infringing and we want to talk," you took it  
16 upon yourself, despite the fact that you had no experience  
17 with electronic ballast patents, to study it to see if there  
18 was any merit to the claim. Is that right?

19 A. I did study it to see if there was a merit to the claim.

20 Q. But you studied it, and there were lots of engineers  
21 there, weren't there?

22 A. Yes.

23 Q. And there were lots. Like Mr. Poehlman was there?

24 A. Yes.

25 Q. Was Mr. Burke there?



1 A. No.

2 Q. He had already retired?

3 A. Yes.

4 Q. But you knew Mr. Burke?

5 A. Yes.

6 Q. You could have -- Did you talk to Mr. Burke in 2005?

7 A. I don't recall if I talked to Bob about this or not.

8 Q. Okay. Did you talk -- you talked to Mr. Radzinski?

9 A. Yes.

10 Q. Did you talk to Mr. Hesterman?

11 A. No, he wasn't there.

12 Q. But, sir, there were lots of engineers at Universal that  
13 have a lot more experience with electronic ballasts and  
14 patents on electronic ballasts than you did when you were  
15 studying Mr. Bobel's patents.

16 A. That is true, and they had studied it previously.

17 Q. They did study it previously. And did they tell you they  
18 studied it previously?

19 A. Yes.

20 Q. Did they tell you they studied it in 1996, 1997, 1998?

21 A. I don't recall the years.

22 Q. Did anyone tell you that in 1996 that Mr. Burke had a  
23 committee meeting with all -- Do you recognize the names on  
24 this list?

25 A. Some of the names, yes.

1 Q. Yes. And did anyone tell you that when you took it upon  
2 yourself to study this patent that they had already studied  
3 this and ordered a prior art search on this?

4 A. I didn't know about the prior art search, but they told  
5 me thaw studied it, yes.

6 Q. And did they tell you some of the engineers felt that the  
7 '529 Patent could be avoided by shifting the inverter  
8 frequency instead of shutting down the inverter frequency?

9 A. I don't recall that, no.

10 Q. You don't recall that. Did anyone tell you that they  
11 felt that Mr. Bobel's patent covered their intended shutdown  
12 scheme?

13 A. No. I have never seen this document, no.

14 Q. You have never seen this document?

15 A. No.

16 Q. Huh. Now, sir, when you did this evaluation, you were  
17 still relatively new at the company?

18 A. Yes.

19 Q. You wanted to do a good job?

20 A. Yes.

21 Q. And you studied it hard? How hard did you study it?

22 A. Study?

23 Q. Mr. Bobel's patent.

24 A. I have a long history in electronics, and these  
25 electronics are no different than telecommunications. I

1 studied it with the 16 years I had at the time, and it was --  
2 I didn't have to look very far to see that these things were  
3 very different.

4 Q. Now, Mr. Berry, when you studied this, you imagined  
5 -- You have a very good memory of all the stuff you did in  
6 2005-2006.

7 A. Some things, yes.

8 Q. Like all of this, you have excellent recall, don't you?

9 A. Yes.

10 Q. Like you were able to tell Mr. Routh exactly how many  
11 products you looked at six years ago.

12 A. I don't think I did that, actually.

13 Q. I thought you knew exactly how many products Mr. Bobel  
14 identified in his letter.

15 A. We looked at some of the products that were represented  
16 in the groups.

17 Q. And when you studied this, I take it you took notes.

18 A. Probably, yeah; certainly during the time I was doing it.

19 Q. So when you were investigating this, you made notes.

20 A. Probably, yeah.

21 Q. And did you mark up the patents and make drawings and  
22 circles and use a highlighter?

23 A. I typically do that, yes.

24 Q. Okay, sir. Did you send any emails regarding this, your  
25 findings?

1 A. I may have sent an email to Jeff Behrendt our CFO. If I  
2 didn't, I certainly called him.

3 Q. Okay. Did you participate in any meetings where this was  
4 discussed?

5 A. Just the meeting with Chris Radzinski I mentioned.

6 Q. Okay, sir. Did you look at your notes in preparation for  
7 your testimony today?

8 A. No. I have revisited the work that I did then in  
9 preparation for testimony.

10 Q. Okay, sir. I will represent to you -- You see all these  
11 boxes here?

12 A. Yes.

13 Q. You see all these documents here and you see all these  
14 documents here?

15 A. Yes.

16 Q. I will represent to you that this ain't half of what has  
17 been produced in this case, and I will represent to you that  
18 we have not seen a single document from anyone that did any  
19 investigation in response to Mr. Bobel's letter. So if you  
20 studied this and took notes, can you explain to this jury and  
21 this Court and everyone in this courtroom why we have never  
22 been given those documents and that information?

23 A. They weren't retained.

24 Q. Did you destroy them?

25 A. If I kept all my notes around, it would be stacked to the

1 ceiling.

2 Q. Okay. So let me get this right, then. You get a letter  
3 from Mr. Bobel's attorney that you take it upon yourself to  
4 look at and you perceive it as a threat of litigation. Right?

5 A. Yeah.

6 Q. And so does Mr. Sullivan.

7 A. Yes.

8 Q. So you knew if there was going to be litigation that  
9 there might be a jury that would want to see what happened  
10 during the relevant time period. You knew that, didn't you?

11 A. I actually had not considered that this would go to  
12 court.

13 Q. And we will never know, none of us in this room will ever  
14 be given the opportunity to look at exactly what work you did  
15 that may be important to these folks in deciding this case.

16 A. That is true.

17 Q. Now, sir, you understand -- Do you understand what a  
18 preferred embodiment is?

19 A. Yes.

20 Q. That is the example in the patent. Right?

21 A. That is a way to implement the patent, yes.

22 Q. That is right. And you understand that it is not the  
23 example or the figures in the patent that control, but the  
24 claims. Right?

25 A. That is right; the claims.

1 Q. Did you know that in 2005 on your first time you were  
2 working at this electronic ballast patent?

3 A. Of course.

4 Q. So you studied the claims?

5 A. Yes.

6 Q. And I take it you made a claim chart and put the terms  
7 side by side?

8 A. I don't recall exactly the method I used.

9 Q. Okay. And then you took all these other patents and you  
10 put those side by side and compared them and wrote down all  
11 the differences between them.

12 A. Yes.

13 Q. Now, do you know who Mark Patterson is?

14 A. Yes.

15 Q. Have you ever met with Mr. Patterson? He is your patent  
16 attorney, isn't he?

17 A. Yes.

18 Q. You don't have any notes to tell this jury from what you  
19 can remember what you did six years ago. Right? You don't  
20 have any today that we can look at?

21 A. No.

22 Q. But you can remember everything that you did six years  
23 ago. Right?

24 A. I can't remember everything I did six years ago, no.

25 Q. You seem to remember quite a bit from what you did six

1 A. The dimming ballast was a rapid start. Soon of that I  
2 started working on instant start ballasts. We didn't really  
3 work on program start ballasts until the 1996, 1997 time  
4 frame.

5 Q. Did Universal start selling program start ballasts around  
6 that time frame?

7 A. '96, '97. Yes, sir.

8 Q. Was there anything novel about that product in the market  
9 at that time?

10 A. Well, the product that went to market with had first had  
11 a patent associated with it. The inventors were Bryce  
12 Hesterman and Ben Beer, and the product was novel in that it  
13 was a parallel -- resonant parallel lamp operation program  
14 start ballast.

15 Q. Now, did that product use -- You understand what an  
16 integrated circuit is, don't you?

17 A. Yes, sir.

18 Q. Did that product use an application specific integrated  
19 circuit to control the oscillations of the ballasts?

20 A. No, it did not.

21 Q. And why not, if you know?

22 A. At that time the ICs for controlling ballasts were not  
23 readily available to us, and also at that time--I am going to  
24 call it this way--silicone was expensive, so either power  
25 MOSFETs, which are typically used with driven circuits

1 controlled by ICs, and then the chips themselves were very  
2 expensive. So a more cost effective solution for us was  
3 discreet implementation.

4 Q. In 1996 or thereabouts, did you become aware of the  
5 patent in this case, the '529 Patent?

6 A. Yes.

7 Q. And how did you come to be aware of it?

8 A. Some conversations with Mr. Hesterman and his work in our  
9 research and development looking for shutdown or end of lamp  
10 life circuits to be used with our other products at the time.

11 Q. And just so you have it and just so you know the patent  
12 is in front of you if you want to look at it, it is JX-1. And  
13 why were you looking at patents dealing with shutdown  
14 circuits?

15 A. At the time the market was starting to shift to increased  
16 usage of small diameter lamps. These are lamps that are  
17 four-eighths of an inch and five-eighths of an inch in  
18 diameter--I should say cross section, and there was work being  
19 done that as those lamps reached end of life, the ends of the  
20 lamps would overheat so there is concern without some means to  
21 limit the temperature of the lamp once it reached end of life  
22 that there may be a potential safety issue.

23 Q. And was the '529 Patent the only patent you were looking  
24 at at that time, or were there others?

25 A. There were other patents.



1 Q. Do you know how many?

2 A. Approximately ten.

3 Q. And was your consideration of patents, including the '529  
4 Patent in that field at that time, relevant to how you were  
5 designing your products?

6 A. I am not sure.

7 Q. Did you take the '529 Patent and these other patents into  
8 consideration when you were working on and developing  
9 products?

10 A. Yes.

11 Q. And in what respect did you do that?

12 A. Well, we wanted to make sure that designs that we came up  
13 with did not infringe on any existing intellectual property.

14 Q. I am going to show you a document. You have got it in  
15 front of you. It is Plaintiff's Exhibit No. 3. It has been  
16 admitted into evidence. And I would like you to look at that  
17 and let me know if you recognize it.

18 A. Yes, I do recognize it. These are pages from  
19 Mr. Hesterman's -- one of Mr. Hesterman's lab notebooks.

20 Q. Okay. And I have got it blown up in the bottom here, and  
21 can you let me know if you recognize what I am showing here?

22 A. What you have on the screen is the signature of George  
23 Mortimer who is an associate of mine at the time.

24 Q. Okay. I have got the wrong page. I am sorry. Let me  
25 show you this page. This is -- Just so you know, it has

1 number 39246 in the bottom right corner, if you want to follow  
2 along. And what is this here I am pointing at with my finger?

3 A. That is my signature that I witnessed and understood the  
4 work that Mr. Hesterman was -- what he was working on at the  
5 time.

6 Q. And so you were working with Mr. Hesterman at this time  
7 on at least some things. Correct?

8 A. Yes.

9 Q. And what was his role within the engineering department  
10 at Universal?

11 A. He was our primary researcher.

12 Q. Was he working on designing or working on products that  
13 were currently being sold?

14 A. He was working on products that would be industrialized  
15 in the future.

16 Q. And did all of his designs ultimately end up getting  
17 implemented in products that were sold?

18 A. No, they did not.

19 Q. I want you to take a look at what I have highlighted here  
20 on the screen. Let me zoom in a little bit so it is clearer.  
21 And you don't have to read it out loud. I just want to  
22 understand it.

23 Do you see the sentence I have highlighted that  
24 references Bobel's shutdown circuit pattern?

25 A. Yes.

1 Q. If you turn to not the next page of the document but the  
2 page after that, now, this is the same date. Correct? At the  
3 top, January 24th, 1997?

4 A. Yes, it is.

5 Q. This also has your signature at the bottom?

6 A. Yes.

7 Q. Could you read out loud the part here under "circuit  
8 operation" that I have highlighted the third paragraph?

9 A. "When power is first applied to the ballast, the bulk  
10 voltage is charged to the peak value of the rectified AC line.  
11 C5 is charged through R1 and R2 until VCC reaches 16 volts,  
12 which takes about 200 milliseconds. U1 then begins to operate  
13 and Vref, which is a 5 volt reference output, turns on. Vref  
14 provides power to U2, a 4027 dual JK flip-flop. The voltage  
15 across L3-B is rectified and used to supply power to the  
16 inverter gate drive circuit at node VDRV."

17 Q. Can you explain what that means in terms that we can  
18 understand?

19 A. What it means is when the ballast is energized, power is  
20 applied to it, that an IC, in this case U1, begins to operate  
21 on its own without any other sensing.

22 Q. When you say "without any other sensing," could you  
23 describe a little bit more? Does this ballast that is being  
24 described in this notebook require lamps connected to the  
25 ballast in order to begin operating?

1 A. No, it does not.

2 Q. Now, was this particular design discussed in the notebook  
3 ever ultimately implemented in a ULT products?

4 A. No.

5 Q. Do other ULT products operate in such a way that lamps do  
6 not need to be present in order for the ballast to begin  
7 operating?

8 A. Yes, sir.

9 Q. If you look back at JTX-76.

10 A. That is the list of products.

11 Q. We are going to put that back on the screen. Can you  
12 describe -- Just identify by group if you know which of the  
13 product groups do not require a lamp in place to begin  
14 oscillations.

15 A. Linear Group 1, oscillations will begin with the circuit  
16 unloaded. Linear Group 2. If we move up on the page. Linear  
17 Group 3.

18 Q. Uh-huh.

19 A. And Compact Fluorescent Lamp Group 1.

20 Q. Okay.

21 A. And also Compact Fluorescent Lamp Group 2.

22 Q. Now, when you were designing products and working on  
23 product design at Universal, did you consider that aspect of  
24 the operation of these products to be relevant in  
25 distinguishing these products from any of the other patents in

1 the field you were aware of?

2 A. Yes.

3 Q. Was the '529 one of those patents?

4 A. Yes, '529 is one.

5 Q. Is there a reason why you thought that that was a  
6 relevant distinction between these products and the '529?

7 A. In the Mode A operation of the '529, the circuit  
8 description, the invention described in '529 will not begin to  
9 oscillate if the lamp filaments are not present.

10 Q. And when you say Mode A--you have got the patent in front  
11 of you--could you just identify what column that is in?

12 A. Sure. Mode A is in Column 7 and continues on Column 8.

13 Q. Let me ask you about a slightly different document.

14 MR. PEARCE: Can we pull up JTX-74, please?

15 Q. (BY MR. PEARCE) That should be in your binder. Do you  
16 recognize this document, sir?

17 A. Yes. This is a patent from Mr. Hesterman and also  
18 Universal -- well, MagneTek which became Universal Lighting.  
19 It is a shutdown circuit for a self-oscillating series  
20 resonant circuit.

21 Q. And do you see anything about the '529 Patent on the  
22 front of this document in the upper right hand corner?

23 A. The '529 is a cited reference.

24 Q. So do you understand that to mean that the Patent Office  
25 granted this patent knowing about the '529?

1 A. Yes.

2 Q. If you could turn to -- Let's see. Turn to -- Go past  
3 the figures of the patent, and when you get to Column 1, can  
4 you go down and just read it out loud the part starting with  
5 "other prior art shutdown circuits"?

6 A. All right. "Other prior art shutdown circuits that were  
7 designed to sense large overvoltage conditions could be  
8 adjusted to trigger at lower voltage levels because their  
9 sensing circuits do not clamp the open circuit voltage. These  
10 circuits, however, typically use a DIAC as the threshold  
11 sensing device. Typical DIACs have a loose tolerance on the  
12 trigger voltage level and, therefore, may not have the  
13 accuracy required for sensing overvoltage levels associated  
14 with lamp overheating."

15 Q. If I could stop you there. Is the '529 Patent identified  
16 as an example of such a prior art shutdown circuit that uses a  
17 DIAC?

18 A. Yes, it is.

19 Q. If you go over to the top of Column 2, do you see -- If  
20 you can read the two sentences of the second paragraph  
21 starting with "U.S. patent numbers."

22 A. "U.S. patent numbers 4,562,383 and 5,436,529 show  
23 shutdown circuits that have the desirable property of causing  
24 the ballast to remain off until the bad lamp is replaced.  
25 These circuits, however, suffer from other problems described

1 above."

2 Q. And you are familiar with this patent. Correct?

3 A. Yes.

4 Q. Do you understand this patent to be describing an  
5 invention that is intended to try to solve some of the  
6 problems that it says prior art circuit suffered from?

7 A. Yes.

8 Q. Do you know if the circuit described in this patent --  
9 first let me go back. Let's go back to the first page of it.  
10 Can you tell me when this patent issued?

11 A. This patent issued June 3rd, 1997.

12 Q. And do you know if this patent was -- the circuit  
13 described in this patent was ever ultimately implemented in a  
14 product that ULT sold?

15 A. This circuit was never implemented in a product that we  
16 sold.

17 Q. And why not?

18 A. At this time frame in 1997, integrated circuits started  
19 to become available to us and also in a cost point that was  
20 attractive that allowed us to use driven circuits, and they  
21 also gave us different control modes so we could get frequency  
22 shifting for preheat it allowed us to do dimming and also  
23 allowed us to do shutdown and end of lamp life conditions.

24 Q. And so did you consider that to be an advance over the  
25 technology taught in this patent?

1 A. Yes.

2 Q. Can you turn to, It is either in your notebook or maybe a  
3 loose-leaf one, I think it is JTX-89 or a portion of JTX-89.  
4 Do you see it there?

5 A. It is not in the notebook.

6 Q. Okay.

7 MR. PEARCE: If I may approach?

8 Q. (BY MR. PEARCE) Let me just hand you this copy. Sorry.  
9 about that.

10 A. Thank you.

11 Q. Mr. Poehlman, can you tell me if you recognize this  
12 document?

13 A. Yes, I do.

14 Q. What is it?

15 A. This is the data sheet for a ballast driver IC from ST  
16 Microelectronics. The part number is L6574.

17 Q. And is that part used in any of the products that are at  
18 issue in this case?

19 A. Yes.

20 Q. And which products? We can pull JTX-76 up, if that would  
21 help you.

22 A. This IC is used in products in Linear Group 1, linear  
23 Group 2, Linear Group 3, and Compact Fluorescent Lamps Group 1  
24 and 2.

25 Q. Can you turn to I think it is the fifth page of the



1 document in front of you, and let me know if you see something  
2 about timing diagrams.

3 A. Yes, sir.

4 Q. Okay. I am going to put that up here on the screen so  
5 you can follow along. And do you see a reference to EN-1 and  
6 EN-2 on the page?

7 A. Yes, I do.

8 Q. Okay. And can you explain what EN-1 and EN-2 are in this  
9 product?

10 A. These are two pins that are related with stopping the  
11 output of the IC, and also restarting the IC. EN-1, when it  
12 is active high, the output of the IC is stopped, stopping the  
13 output of the ballast. When EN-2 is high, then the ballast is  
14 restarted?

15 Q. And are some of your products, some of the products that  
16 are at issue in this case, designed to send a signal to EN-2  
17 to try to restart the ballast if there is a problem with the  
18 ballast?

19 A. A problem with the ballast --

20 Q. Or with the lamp. Excuse me. A problem with the lamp.

21 A. Yes.

22 Q. Could you turn to JTX-83 in your binder? And if you  
23 could look through JTX-83, there is a number of documents.  
24 Just let me know which product these relate to?

25 A. These relate to -- Specifically it is the C2642UNV,

1 generation B on the accused product list. This is the  
2 representative sample for Compact Fluorescent Lamp Group 1.

3 Q. Can you explain to the jury what happens in this product  
4 if the ballast detects a problem with the lamp? That is a  
5 hard question. I am sorry. Does the ballast respond in  
6 different ways to different problems with the lamp?

7 A. Yes, it does.

8 Q. Okay. And can you -- Are some of those problems  
9 responded to by the ballast by causing a signal to go to the  
10 EN-2 input you discussed earlier?

11 A. Yes.

12 MR. SKEELS: Objection, Your Honor; leading.

13 THE COURT: Overruled.

14 Q. (BY MR. PEARCE) And can you describe what happens in  
15 this ballast if the signal goes to the EN-2 pin?

16 A. If the EN-2 pin is hold up to its high level, then the  
17 ballast will reinitiate what is called a preheat level so it  
18 will start operating at a high frequency, higher than normal  
19 frequency, for approximately one second, and then the  
20 frequency will ramp down to reignite the lamps.

21 Q. You said something about a higher frequency. When there  
22 is a signal to the EN-2 pin of the ballast, is the ballast  
23 shifting the inverter frequency?

24 A. Yes, it is.

25 Q. And how many times will it do that?

1 A. Depending on the loading condition, it could be as few as  
2 three times, or what we found in some of our testing is that  
3 it could never stop this cycling of preheat, ignition, back to  
4 preheat, and then ignition.

5 Q. Let me ask you about that. Do you have an understanding  
6 of how this product works if the power is initially turned  
7 onto the ballast and no lamps are connected to it?

8 A. Yes.

9 Q. And what will happen if that is the case?

10 A. If this ballast is energized with no lamps attached to  
11 it, then the inverter will begin to operate -- I should say  
12 the IC will begin to drive the gates of the power MOSFETs at  
13 the preheat frequency. It will operate at the preheat  
14 frequency, which is somewhere close to 100 kilohertz for  
15 approximately one second, and then the frequency will ramp  
16 down to close to the run frequency, which is in the  
17 neighborhood of 60 kilohertz. But before it quite gets to  
18 that point, the circuit associated with the resistor, two  
19 resistors here that are current sense in line with what we  
20 call the low side switch will cause a signal to go back to the  
21 enable 2 pin pushing it high and moving the circuit back to  
22 that preheat function.

23 Q. And let me ask the first question. If there is a problem  
24 with the ballast, say the ballast is connected to the lamps,  
25 it is running, and a problem is detected, to your knowledge

1 what is the most number of times that that process will  
2 happen?

3 A. In our testing of some samples of this generation of  
4 product, what we saw with I think it was the red lamp was in  
5 the circuit, pulled the blue lamp out and we saw nine attempts  
6 at restarting before the ballast shut down.

7 Q. And I think you mentioned a moment ago something about  
8 how long these things last. If it is nine times, how long in  
9 seconds is that?

10 A. It is approximately ten seconds.

11 Q. And now if you have the ballast turned on initially,  
12 power is turned on to the ballast, no lamps are connected, how  
13 many times will it go through that recycling process?

14 A. Again, what we found in our testing of the representative  
15 sample was that the ballast never stopped going through that  
16 cycle of preheat, ignition attempt, preheat, ignition attempt.

17 MR. PEARCE: May I approach?

18 Q. (BY MR. PEARCE) I am going to hand you a document that  
19 has been marked as DTX-145. Will you look at this and let me  
20 know if you recognize the document?

21 A. I do recognize this. These are wave forms that were  
22 captured in our lab in Alabama showing the behavior of this  
23 ballast.

24 Q. And how was this document created?

25 A. One of my technicians and I worked on -- We attached the

1 electricity. In this case here it will actually store  
2 electricity.

3 MR. ROUTH: And pull up --

4 Q. (BY MR. ROUTH) What is that, sir?

5 A. That happens to be a transistor. Now, what a transistor  
6 is is a device, if you put current into what they call the  
7 base here, which is that part right there, you can actually  
8 change the impedance level of what we call collector to  
9 emitter here. So normally it might be very high resistance.  
10 If you put a little current in here you can take it to very  
11 low resistance. That is the way you control that device.

12 Q. And what is the final component that is used in the '529  
13 Patent?

14 A. That is a DIAC, and that is actually a voltage controlled  
15 switch. What happens with it is that when the voltage level  
16 is increasing on it, eventually it will reach its breakover  
17 point, and when it breaks over the impedance of that suddenly  
18 goes to very low levels. So it is actually is a switch. It  
19 is a voltage control switch, comes up, and then goes to very  
20 low levels impedance-wise.

21 Q. There are also a lot of numbers associated with these  
22 components; this circle DIAC with the number 45 next to it.

23 A. That is a designator so you can go to a text and refer  
24 back to that the text sample.

25 Q. So if you go into the patent specification, the columns,

1 it will talk about DIAC 45, and you can look at the figure and  
2 know what you are talking about?

3 A. Right. And you can see what they are talking about.

4 MR. ROUTH: Let's go back to Figure 1, then.

5 Q. (BY MR. ROUTH) And I asked you about those components  
6 because I wanted to be clear. Sometimes folks in your  
7 position know so much--you move a control path through this,  
8 and that, and the other thing. It is hard to follow. What  
9 you are really doing is reading the codes, the resistor or the  
10 DIAC, you know what they are and you can say the signal moves  
11 from this transistor to that diode and so on. Correct?

12 A. Yeah. Right.

13 Q. Okay. So now you have identified the control path. What  
14 next would you do to explain this circuit to the jury?

15 A. You want to bring up the resonant converter.

16 Q. The resonant converter is I think red?

17 A. Right. Now, that is what they call a resonant converter.  
18 Now, the way this converts DC, which is over here, and that is  
19 direct current, to AC, which is like this, is that this switch  
20 will turn on, and what it will do is it will pull current this  
21 way. See that arrow at the bottom? That means current is  
22 flowing this way. So it is pulling current through this way,  
23 and then eventually this one will turn off and that transistor  
24 will turn on, and so from the load standpoint it will pull it  
25 this way. So as you can see, it is flowing this way and then

1 it is flowing this way.

2 Now, what these two devices do here, that is the resonant  
3 capacitor and resonant conductors, it actually makes a  
4 sinusoid. So it is pulling current through, and that actually  
5 makes a sinusoid out of it.

6 Q. Okay. When you are bringing DC into the ballast and you  
7 put it into the resident converter what happens?

8 A. You make AC out of it, alternating current.

9 Q. And there are two transistors I think that have been  
10 talked about before, the transistor 51 in the upper right  
11 portion there on the red line and transistor 52 down below it  
12 in the lower portion on the right. What is the function of  
13 those two transistors?

14 A. They are switches. They switch off and on.

15 Q. And What will the effect of that switching on and off be?

16 A. It will drive current from the load one direction or the  
17 other.

18 Q. We talked at some point in the case about having higher  
19 frequency AC current in order to get more efficient lamps,  
20 fluorescent lamps. What does the switching on and off of  
21 transistor 51 and 52 have to do with that?

22 A. Well, in this case instead of doing it low frequency,  
23 like 60 cycles per second, you can turn this on and off at  
24 maybe 20,000, 50,000 or 60,000 cycles per second, and then you  
25 can drive that lamp at high frequency, and that is how you get

1 higher efficiency.

2 Q. Is it literally that transistor 51 and 50 are literally  
3 opening 50,000, 60,000 times a second?

4 A. Right.

5 Q. What next would you demonstrate to explain the working of  
6 this circuit?

7 A. Well, just, you know, I talked about what is actually  
8 creating that AC is those two transistors, these two resonant  
9 components, and it could be these out here as well. It  
10 depends upon their value. In general, these are ignored  
11 because they are so much higher value than these. But in  
12 general these are actually what is called the resonant  
13 circuit.

14 Q. What is the next requirement of the '529 Claim 1 that you  
15 can demonstrate on this figure?

16 A. In this case it is initiate oscillation.

17 Q. And how is that done?

18 A. Well, in this case it is one of the paths on the control  
19 means, which is what this block 58 is here.

20 Q. Okay. Is that referred to in the patent with a  
21 particular designation?

22 A. This is control path one.

23 Q. So first series control?

24 A. First series control path. Right.

25 Q. And the current flows through that control path and



1 through those various elements in a way that is described in  
2 the patent. Is that right?

3 A. That is correct.

4 Q. What does the flow of current through current series one,  
5 what does that accomplish?

6 A. In this case I think it may be best if I explain it.

7 Q. Okay.

8 A. What happens when you first turn the ballast on, this  
9 voltage comes up. You get current through this DC control  
10 path, and it starts flowing down into the control means.

11 Now, it flows through this diode here, which is 39, and  
12 it starts charging up capacitor 42. Now, after a little time,  
13 that capacitor voltage reaches the breakover voltage of that  
14 DIAC. When it does, it will send a pulse of current --  
15 Because remember, that is actually acting as a switch, so it  
16 will close. It will throw current into transistor 52 and  
17 start the oscillations of the averse. So that will start the  
18 first half oscillations and it will start pulling current  
19 through the load this way.

20 Q. What next happens in the operation of when you are  
21 initiating oscillations?

22 A. Well, just to be clear, what happens here is this reactor  
23 starts switching the transistors off and on because current  
24 will flow this way and current will flow that way, and that  
25 device actually switches the transistor. What happens to that

1 is in the second series path, is that the current will also  
2 start flowing here through 34, and then down through resistor  
3 35, and that will charge capacitor 38.

4 And see that transistor right there? Once it reaches the  
5 voltage to turn that transistor on, it will turn that  
6 transistor on, and when it does it will keep capacitor 42 from  
7 opening up, charging up again and then breaking over that DIAC  
8 again. And you want to do that, because if you don't do that  
9 it could turn on transistor 52 at an inopportune time. I am  
10 sorry. I got -- that one right there. It could turn 44 on at  
11 an inopportune time which could then damage the part. It  
12 actually might fail. Because, you know, this one might on and  
13 might try to turn that one on, and if they are both on the  
14 device will fail.

15 Q. So we have now highlighted in green a path you just  
16 discussed. Is that referred to as the second series current  
17 path?

18 A. It is the second series current path, yes.

19 Q. Are the first and second series paths together what  
20 effectively initiate --

21 A. That is what the patent refers to is effectively  
22 initiates oscillations, yes.

23 Q. There is a third series current path we have heard about  
24 before.

25 MR. ROUTH: Could we highlight that in orange?

1 Q. (BY MR. ROUTH) And what does that do in the '529 Patent?

2 A. In this case if the lamp becomes inoperative or if it is  
3 removed from the sockets, the natural tendency of this circuit  
4 is that that voltage will rise. Now, normally it won't be  
5 high enough to charge the capacitor up enough to break over  
6 that diode -- or DIAC, excuse me. That DIAC. But when this  
7 voltage rises it will charge that capacitor up enough so that  
8 it will break over -- go over the breakover voltage of that  
9 DIAC, which will then switch on and turn on that transistor.  
10 Now, that transistor then will stop the flow of switching  
11 current to that transistor out of that magnetic device there.  
12 Now, when it does that, it won't -- that won't allow that  
13 transistor to turn on and it will stop oscillation.

14 Q. Now these three different paths, the blue, the green, and  
15 the orange path, how are they referred to in the '529 Patent?

16 A. As the control means.

17 Q. Why that designation? What is it that causes these three  
18 current paths to be the control or control means of the  
19 ballast?

20 A. Well, this is what the patent -- in Claim 1 when it talks  
21 about control means it is referring to this right here. It is  
22 referring to that control means in 58.

23 Q. Are there any other requirements of Claim 1 of the '529  
24 Patent that you have not yet illustrated using Figure 1 of the  
25 patent?

1 A. DC blocking means.

2 Q. And those are to be highlighted in like a brown color?

3 A. Yes.

4 Q. Okay.

5 A. Now, the DC blocking means is these two capacitors. And  
6 what happens is when you have an open filament, you don't want  
7 current to flow in this particular patent. He doesn't want  
8 current to flow into the input of the control means. Now, but  
9 he does want to heat the filament, so there is a device here  
10 that is called the capacitor that will pass AC current, which  
11 is what he has here, so it will heat the filament but it won't  
12 pass DC. That is a characteristic of that device. And that  
13 way if that filament opens you won't get any current into the  
14 input of the control means.

15 Q. This picture illustrates Claim 1 of the patent. Is that  
16 correct?

17 A. It does, yes.

18 Q. But what is the foundation for your understanding of what  
19 Claim 1 requires?

20 A. The specification.

21 Q. Let me bring up -- Actually I think it is the slide with  
22 Claim 1 on it, slide 7. Mr. Burke, you are familiar with  
23 Claim 1 of the patent?

24 A. I am.

25 Q. Okay. I have highlighted, or you have highlighted I

1 guess, the various requirements. Do you have an understanding  
2 of each of these?

3 A. Energy conversion device, voltage source means, the  
4 output terminals connected to the filaments, control means.

5 Q. I think to move things along I am going to start with the  
6 control means. The control means, what does it require, as  
7 you understand it?

8 A. Well, it requires three series paths.

9 Q. But more particularly it says control means -- does it  
10 require that the ballast perform a particular function?

11 A. Well, yeah. Those three series paths -- Well, you  
12 mean -- I assume you mean stop --

13 THE COURT: Don't talk over each other, please.

14 MR. ROUTH: I apologize.

15 THE WITNESS: "The control means is capable of  
16 receiving control signals from the DC input terminals and from  
17 the resonant converter AND capable to effectively initiate  
18 oscillations."

19 Q. (BY MR. ROUTH) Okay. So it has to effectively  
20 oscillations. Is there a further requirement there?

21 A. And effectively to stop oscillations.

22 Q. Now, it seemed like that picture you showed, the picture  
23 of Figure 1 you showed us had a lot more information than  
24 comes just out of those words. Where else have you looked and  
25 why have you looked there to find further meaning to the

1 control means term?

2 A. Well, control means is an indicator in patent language  
3 that you have to go look in the specification to see what he  
4 is talking about. One of the places that the Court has shown  
5 us is in Column 3 and 4. And that is the structure of it.  
6 Now, you also have to look at the function, and that is  
7 outlined in Column 7 and 8.

8 MR. ROUTH: Pull up the slide that shows the Column  
9 3 and Column 4 portion.

10 Q. (BY MR. ROUTH) This is the portion of the specification  
11 that the Court has specifically said is the structure of the  
12 control means. Is that correct?

13 A. That is correct. And that is very much the same -- That  
14 is the same structure that is shown in Figure 1.

15 Q. And if you follow the text here and match up the numbers  
16 in the text with the numbers in Figure 1 we looked at a few  
17 minutes ago, you will find this describes the lines and  
18 various things that you showed in Figure 1. Is that right?

19 A. That is correct.

20 Q. Have you looked at other portions of the specification as  
21 well?

22 A. Yes, I have.

23 Q. What use do you make of the other portions of the  
24 specification in your analysis?

25 A. Well, I think there is another part that talks about will

1 not or -- will not draw power from the powerline.

2 Q. Now, do you take that and say because it says that in the  
3 specification, then Claim 1 must require that? Is it as  
4 simple an analysis as --

5 A. No, it is not. No, it is not. It comes from several  
6 places in the specification.

7 Q. Do you inform your understanding of Claim 1 by how a  
8 person of ordinary skill in the art would read the claim in  
9 light of the overall specification?

10 A. Well, yes.

11 MR. ROUTH: I am going to jump ahead just a little  
12 bit to keep moving, Your Honor.

13 Q. (BY MR. ROUTH) Mr. Burke, do you think you have given  
14 the jury enough information for it now to understand your  
15 analysis as you apply the '529 Patent to the ULT products at  
16 issue in the case? Is there anything more you want to bring  
17 to the jury's attention to explain your understanding of the  
18 '529 Patent?

19 A. How I understood it?

20 Q. Yes. And I am not trying to get -- What I am trying to  
21 do is, quite frankly, move this along. I think the jury has  
22 heard quite a bit --

23 A. I understand, but if there are other parts, I mean, I  
24 thought were important is that will never -- will stop  
25 oscillations and will never oscillate if a filament is open.

1 THE COURT: I can't hear. Could you repeat that,  
2 please?

3 THE WITNESS: I think another particular important  
4 part of the specification is that it will -- once a filament  
5 is open, it will never initiate oscillations.

6 MR. ROUTH: Let me ask you to pull up, I think that  
7 is Column 2 of the patent?

8 Q. (BY MR. ROUTH) Is that where you find that?

9 A. It is in Column 7 and Column 8.

10 Q. Okay. Do you have the patent in front of you, sir?

11 A. No, I don't.

12 Q. It may be easier to do it that way.

13 MR. ROUTH: With permission, Your Honor, I am going  
14 to pass this up to Mr. Burke.

15 Q. (BY MR. ROUTH) Mr. Burke, what portion of the patent are  
16 you referring to?

17 MR. SUDER: Your Honor, I want to impose one  
18 objection, and that is to leading. I appreciate that he is  
19 trying to move this along, but to ask him questions and  
20 already give him the answer is suggestive and leading.

21 THE COURT: Overruled.

22 THE WITNESS: That is Mode B, thus the device will  
23 never start to oscillate on its own.

24 Q. (BY MR. ROUTH) That is the reference you were referring  
25 to in Column 8. For the jury's information can you tell them



1 where in Column 8 it is found?

2 A. It is in Mode B right at the bottom.

3 Q. And are there other places in the patent where it also  
4 discusses the ballast shutting down without further  
5 oscillations or operations?

6 A. It does.

7 Q. Let me ask a few questions now. Again, is there anything  
8 else you want to bring to the jury's attention on the '529  
9 before we move on? We will come back, obviously, in talking  
10 about how it relates to the ULT products.

11 A. Not at this time.

12 Q. Okay. Let me ask you a few questions about the  
13 development of the electronic ballast technology. Where does  
14 the '529 Patent fit into the development of the electronic  
15 ballast?

16 A. Well, it is one patent of many thousands.

17 Q. Okay. And in terms of its time period, was it the first  
18 of electronic ballast patents or where in the overall  
19 development history?

20 A. Well, electronic ballast patents go all the way back into  
21 the '50s, as I recall, or even maybe earlier than that.

22 Q. The '529 Patent talks about a particular type of  
23 circuitry within the electronic ballast, what is sometimes  
24 referred to as shutdown circuitry. Is that correct?

25 A. Yes.

1 Q. And I have also heard end of life circuitry. Is there a  
2 difference between those two terms?

3 A. There can be, yes.

4 Q. Okay. How do you view the '529 Patent?

5 A. It is a shutdown patent, and it is a way to configure it  
6 such that when you have DC through the filament you can shut  
7 down in a certain manner.

8 Q. And when will the '529 Patent shut down the ballast using  
9 the DC through the filaments?

10 A. It won't shut down with DC through the filaments. It  
11 will only shut down due to AC at node 27 when that voltage  
12 goes high.

13 Q. And what will cause the voltage to go high at node 27?

14 A. Well, it is when the lamp is becoming defective or is  
15 removed.

16 Q. Were there shutdown circuits patented and known in the  
17 art prior to the patenting of the '529 Patent?

18 A. Yes, many years before.

19 Q. Can you give us some understanding of when shutdown  
20 circuits started to be understood and patented in the art?

21 A. Well, I think in the 1970s certainly there was a lot of  
22 them then. And then in the '80s. Certainly there were a lot  
23 of them in the 1980s as well.

24 Q. Have you ever designed a shutdown circuit?

25 A. Yes, I have designed shutdown circuits.

1 are entitled to an instruction on spoliation, and I would like  
2 to tender one in accordance with the Federal Circuit, and I  
3 have a copy for Mr. Routh.

4 The other one is, Your Honor, in light of the testimony  
5 they have put on in their case so far, they are trying to say  
6 that because we have patents it is okay -- that is a defense  
7 to our patent infringement case, and there is clear case law  
8 that because -- and this I am quoting from the *Cameco*  
9 *Industries versus Louisiana Cane Company*, that holding -- this  
10 goes to the admissibility. It gives the impression to the  
11 jury that it is okay if they have patents to ignore our  
12 patent, and the law is that an accused product can infringe a  
13 patent even if a product practices other patents. We did not  
14 submit that proposed instruction. We would like to tender  
15 that instruction to the Court, both of these, and ask the  
16 Court to consider them.

17 THE COURT: Let me ask you, where are you with  
18 respect to the jury charge?

19 MR. SKEELS: I am happy to address that, Your Honor.  
20 We had understood that your briefing attorney wanted us to  
21 submit a draft, and we had misunderstood that maybe he wanted  
22 us to get together and see if we could agree on more stuff,  
23 because there is still some disagreements. He clarified that  
24 he wants it in electronic format so he can work with it. So I  
25 think we can get that to him tonight in relatively short order

1 and drop it into your order box.

2 Your Honor, Mr. Suder has raised the issue of additional  
3 instructions. We did include an instruction in our proposed  
4 preliminary jury instructions. The Court read 98 percent of  
5 what the parties agreed on, and left out something that we had  
6 requested regarding previous patents, and so to just clarify  
7 Mr. Suder's position, we have submitted something. But we can  
8 certainly get something, and I will work with Mr. Pearce and  
9 Mr. Routh this evening to get you something into your inbox.

10 THE COURT: So is what you are going to send, it  
11 will have what you all have agreed to and then have  
12 delineated, like the earlier version, what you disagree with?

13 MR. SKEELS: Yes, that is right, Your Honor. We  
14 have tried to put it in bold and LBC's position and ULT's  
15 position is there, with the only additional considerations  
16 being the spoliation and the previous patents. And also we  
17 may want to talk through whether we are going to request an  
18 instruction from the Court on the "connected to" language  
19 really meaning "connection for."

20 THE COURT: Okay. All right. So if you all would  
21 get that, I would appreciate it.

22 MR. PEARCE: And if I may, Your Honor, the only  
23 thing I would admission in addition, they may ask for some  
24 constructions. I don't know if it is in there now or not, but  
25 in light of some of the testimony, we need to get back and do

1 a little bit of research, tonight but probably an instruction  
2 about the relevance, or lack thereof, of whether certain prior  
3 art references recited to the Patent Office where the '529  
4 Patent was already cited, and whether that has any bearing or  
5 should be considered when considering whether the '529 Patent  
6 is valid.

7 THE COURT: Okay. I don't follow that, but go ahead  
8 and keep looking --

9 MR. ROUTH: The one other point I would make is on  
10 the instruction about if you have a patent you can't infringe  
11 a patent. Every witness has been asked about that and every  
12 witness has answered consistently to Mr. Suder's statement,  
13 "No, we are not saying just because we had a patent." They  
14 are saying, "We have a patent that is different and it has  
15 been distinguished as an improvement."

16 Spoliation, I will look at the law on that. Mr. Berry,  
17 we were at four years before this litigation was brought when  
18 Mr. Berry had notes.

19 THE COURT: All right. Very good.

20 MR. SKEELS: The last item. Do you have -- are you  
21 able to give us an update on your time so we can plan  
22 accordingly?

23 THE COURT: Yes. You have used 12 hours and 24  
24 minutes and you have used 10 hours.

25 MR. ROUTH: And in terms of planning, as I

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1 the '529 patent has.

2 So, when we look at this patent compared to the '529,  
3 what we're trying to understand is what does the '529 include  
4 that this doesn't include. The patent was issued. So, when I  
5 look at this, it has all the features, you know, save one, and  
6 that one it doesn't include is the ability to have no input  
7 power when the lamps are defective or when there's a lamp out  
8 of the circuit. All right?

9 **MR. SUDER:** Excuse me, Mr. Burke. Your Honor, at  
10 this point Mr. Burke just explained to the jury this has  
11 everything that's in the claims and that is a clear -- trying  
12 to send a clear message to this jury that this patent has the  
13 same thing that's in the claims and it has something that's  
14 not in the claims. So, the import of this, I object,  
15 Mr. Routh is very subtlety trying to suggest to this jury that  
16 this is an invalidating reference with this witness when they  
17 have an expert that did not rely on this. So to say this has  
18 everything but something that's not in the claims is improper.

19 **MR. ROUTH:** Your Honor, Mr. Burke just testified that  
20 he views that as being something in the claims. I'll tell the  
21 jury, we're not relying on Krummel to invalidate the '529  
22 patent. If Mr. Suder suggests that's what you should infer  
23 from this, please do not. That's not our intent.

24 **THE COURT:** Overruled.

25 **BY MR. ROUTH:**

1 Q. Mr. Burke, you said there's one thing that's not in the  
2 Kroning patent that is in the '529 patent. Could you repeat  
3 that again.

4 A. Well, what's not in this patent is the ability to not have  
5 any input power when the lamps are defective or when the lamps  
6 are removed. So, when the lamps are defective or when the  
7 lamps are removed and the inverter stops oscillating, it  
8 doesn't draw any power from the power line and I think that's  
9 one differentiating factor between, for example, a Kroning  
10 patent and the '529 patent.

11 Q. How does that effect your view or inform your view that  
12 these portions of the specification from the '529 actually are  
13 meant to apply to claim 1 of the '529 patent?

14 A. It just reinforces -- you know, I didn't come to that  
15 conclusion by just looking at the Kroning patent. I actually  
16 read the patent and you can see he says in many places will  
17 not draw power from the power line when oscillations stop or  
18 will not draw power from the power line when lamps are out.  
19 It will not draw power from the power line when the lamps are  
20 defective, right? It will not oscillate -- when the lamp is  
21 removed from the lamp -- from the lamp holders, the circuit  
22 will not oscillate. It will never oscillate, right? On its  
23 own. So, when you put all that together, it's pretty clear  
24 that's what the inventor intended and that's what  
25 differentiates it from circuits that came before it and --



1     yeah.

2     Q.   Now, I want to turn your attention, we're going to go  
3     through some of the limitations of the 529 patent. Is  
4     there -- just checking. I think it was sitting up here a  
5     moment ago, Your Honor. It may -- all right. Mr. Burke, is  
6     this easiest to see sitting on the ground or do you want me to  
7     try to put it up?

8             A JUROR: We can see it.

9             A JUROR: I can't?

10            A JUROR: We can't.

11    BY MR. ROUTH:

12    Q.   This is claim 1 of the '529 patent. Mr. Burke, I'm going  
13    go through some of the requirements of the '529 patent and  
14    understand your view why ULT products don't infringe. I'm  
15    going to start with the control means here. This control  
16    means requirement of the '529 patent. And when you look at  
17    that, control means -- do we have a copy of -- you have an  
18    understanding of the control means of the '529 patent?

19    A.   Yes, I do.

20    Q.   When you -- Well, first of all, did you -- and we went  
21    through on figure 1 yesterday the control means.

22    A.   Right.

23    Q.   Correct? With the three current paths?

24    A.   Yes.

25    Q.   I understand your opinion to be none of the ULT products

1 have a control means as the same or equivalent to the control  
2 means of the '529 patent. Is that correct?

3 A. That's correct.

4 Q. When I say, first of all, you realize, I recognize  
5 everyone agrees, including Dr. Roberts, that there's no ULT  
6 product with a structure in it that the same as the control  
7 means of the '529?

8 A. That's my understanding.

9 Q. So, the key issue here is why is it that you say ULT  
10 products don't have structures that are equivalent to the  
11 52 -- the control means of the '529, correct?

12 A. Yes. But --

13 Q. Okay.

14 A. The main -- I'm sorry.

15 Q. Let's start with how do you do that analysis? What's  
16 your -- your mode of analysis for saying whether two -- the  
17 ULT products on the one hand and the control means of the '529  
18 patent on the other and are equivalent?

19 A. One of things we're looking at, is there differences that  
20 are -- are their differences insubstantial. What it means is  
21 between -- you're looking at two control functions or  
22 structures. They have to -- they have to perform the same  
23 function the same way and achieve the same result. If they  
24 don't do it in the same way, they're not the same. They're  
25 not equivalent.

1           **MR. SUDER:** Excuse me, Your Honor. I object. That  
2 is a misstatement of the law they have to be done the same  
3 way. That's the whole issue in this case. If that's  
4 Mr. Burke's understanding, I would object to Mr. Burke not  
5 applying the proper standard for his analysis. Is it  
6 substantially the same way whether any differences are  
7 insignificant. So, to say they are the same is improper. If  
8 that's the basis of his opinion, then that raises a whole host  
9 of different issues.

10           **THE WITNESS:** Right

11           **MR. ROUTH:** As Mr. Suder knows from Mr. Burke's  
12 report, that's not the basis -- I apologize, Your Honor.

13           **THE COURT:** Overruled. I will instruct you on what  
14 the appropriate law is and you will apply the appropriate law  
15 to the facts as given to you in the case and make your  
16 determination.

17           **BY MR. ROUTH:**

18           Q. Mr. Burke, in terms of considering the correspondence of  
19 the ways and the results, how do you look at those as between  
20 the '529 patent on the one hand and the ULT products on the  
21 other?

22           A. Well, the structures are such that they don't -- they  
23 aren't substantially the same way. They don't do things  
24 substantially the same way and they don't achieve results that  
25 are substantially the same.

1 Q. I'm going to go through some of the ULT products or groups  
2 of products in a few minutes but I want to start with whether  
3 there are some differences between ULT products on the one  
4 hand and the '529 patent control means on the other for all of  
5 the ULT products.

6 A. Okay.

7 Q. So we cover all the products. Are there ways all the ULT  
8 products are substantially different from the '529 patent  
9 control means?

10 A. Yes.

11 Q. Could you tell the jury what -- what would be one of those  
12 ways?

13 A. One of those -- of course, one of those ways is the  
14 integrated circuit that's used.

15 Q. I've put up a slide. Tell me how this relates to the  
16 testimony of this case.

17 A. Well, in a '529 circuit, you have a -- what I think was  
18 referred to by Dr. Roberts as the brains of the -- is the  
19 ballast and in the '529 it's a pretty simplistic brain, that's  
20 for sure. If you are going to compare that to the complexity  
21 of this integrated circuit, it certainly doesn't compare. But  
22 also it's the way --

23 Q. Is this an integrated circuit?

24 A. Yes. That's the integrated circuit there that's used in  
25 many of the products.

1 Q. This is the ULT schematic shown in all of integrated  
2 circuit that's blown up here so you will know what it looks  
3 like.

4 A. What you will see here is what -- what we call glue  
5 components and that's all the components that are around it  
6 and what that allows us to do, it allows us to use the IC in  
7 certain ways and allows us to control the IC and get to it to  
8 do what we want it to do. But the real brains in the  
9 operation in this case is the integrated circuit.

10 Q. Are the differences between the control means, the -- the  
11 '529 patent, are those insubstantial differences to the ICs  
12 used in ULT products?

13 A. Well, there are substantial differences between them, yes.

14 MR. ROUTH: Your Honor, if I could approach. I'm  
15 just going to hand Mr. Burke a copy of the '529 patent. I'm  
16 not suggesting you need to look at that, sir. But I've  
17 unfairly been asking you questions without you having that  
18 available.

19 BY MR. ROUTH:

20 Q. In addition to differences in physical structures, are  
21 there differences in the way that ICs within -- Let me stop.  
22 I've should ask: Does every ULT -- accused ULT product in  
23 this case have either an integrated circuit or a  
24 microprocessor as its brains, to use your term?

25 A. Yes. Some of them have both.

1 Q. In addition to the differences in the physical structures,  
2 substantial differences you said, are there differences in the  
3 way that ICs and microprocessors on the one hand operate  
4 versus the control circuit 58 of the '529 patent?

5 A. Yeah. They're dramatically different.

6 Q. Can you explain to the jury, even in shorthand terms, how  
7 the ICs are dramatically different in the way they operate  
8 than the control circuit 58.

9 MR. SUDER: Excuse me, Your Honor. I need to  
10 interpose an objection. Again, it's not the IC by itself that  
11 comprises the control circuit of 58 and it is improper for  
12 this witness to equate the two and give the wrong impression  
13 to the jury that it is simply the IC when there are lots of  
14 other components within 58 and other components within their  
15 drawings far beyond the IC that make up the control circuit.  
16 So, to equate the two is not consistent with his report, not  
17 consistent with the Court's prior rulings, and not consistent  
18 with the law in this case.

19 THE COURT: Overruled.

20 MR. ROUTH: Your Honor, because --

21 THE COURT: Overruled.

22 MR. ROUTH: I understand. Okay.

23 BY MR. ROUTH:

24 Q. Mr. Burke, do you understand that there's circuitry around  
25 the IC in an ULT product in addition to the IC?

1 A. Absolutely. Yeah.

2 Q. What is it that actually controls the initiation and  
3 stopping of oscillations within an ULT product?

4 A. Well, that's the -- that's the IC and you have -- this  
5 integrated circuit you have -- you have inputs and then you  
6 have output and you have various types of outputs. Now, how  
7 it handles those inputs and the kind of outputs you get is  
8 really what matters.

9 Q. We've put up on the screen a diagram that the jury has  
10 seen before. Could you just explain to them briefly what this  
11 is?

12 A. This is a block diagram of the integrated circuit that is  
13 used in many of the products and you can see the various types  
14 of functions it includes. Now, we don't have a structure of  
15 that exact because that's not available to us. They don't  
16 give that to us. All they can do is give us a block diagram  
17 and it shows all the functions that are available inside that  
18 IC.

19 Q. Does this diagram at least give us a picture of ways in  
20 which the IC operates differently than control circuit 58?

21 A. Yes, it does.

22 Q. Let me try to get to an example of that. In what way do  
23 ULT products with ICs and micro controllers make use of, for  
24 instance, the second series current path of the '529 patent  
25 that we've talked about?

1 A. Well, in this case, in the second series path, what  
2 they -- if you will remember what they do in the second series  
3 path is they actually stop the charge of -- of capacitor, I  
4 think that's 42, because when they turn on transistor -- is  
5 that 48? Transistor 48, it actually pulls the current off 42.

6 Now, in that's IC driven or these ballasts for ULT,  
7 it does exactly the opposite of that. It maintains the power  
8 on the IC. Now, in this particular -- that's the way those  
9 things work is because they maintain the power on the  
10 integrated circuit so they can sense what's going on and  
11 that's also one of the reasons why it draws power from the  
12 power line, is that it's continuously doing that type of thing  
13 versus shutting down complete.

14 Q. Mr. Burke, if you want to get up and walk closer to this.  
15 Again, I don't want to strain your eyes. We're trying to  
16 fight between things. But are there other ways of looking at  
17 Figure 1 in which -- you said the second series -- current  
18 path doesn't exist in the ICs. Are there other ways in which  
19 the IC structures and functions are different that you can see  
20 from this figure?

21 A. When you look at the '529 patent, compare it to ULT's  
22 products, it's pretty clear when you read the patent, it  
23 again-and-again-and-again talks about one shot devices.  
24 That's what these are. It's one shot device that initiates  
25 oscillations. It's one shot device that stop oscillations.



1 And, of course, this path here is to prevent the one shot  
2 device from working. It stops that from firing again and  
3 trying to restart this transistor.

4 So, to me, one of the big differences and what's very  
5 much evident in the '529 patent, that's his control means.  
6 That's his structure. The structure of the ULT product is  
7 nowhere near the same. It's very different. There is no one  
8 shot devices like that.

9 Q. In addition to the second series current path, are there  
10 structures in the ULT products that you view as equivalent to  
11 the first or third series current paths?

12 A. No.

13 Q. Are the differences between the ULT products in the first  
14 and third series current paths and the '529 patent, are they  
15 substantial or insubstantial?

16 A. Excuse me. What was that again?

17 Q. I was asking whether the differences you find between ULT  
18 products on the one hand and the first and third series  
19 current paths that are not shown here, you can draw with your  
20 hand -- are the differences -- insubstantial differences or  
21 substantial differences?

22 A. Okay. They are substantial differences.

23 Q. You may return to the witness stand, please. Mr. Burke,  
24 this is a document that's been shown to the jury a number of  
25 times. It's an ULT or Magnetek document from 1999. I think

1 you're familiar with it. It says Bobel's filament sensing  
2 patent, the '529 patent can be avoided by shifting the  
3 inverter frequency instead of shutting down the inverter?

4 A. Yes.

5 Q. Do any of the ULT accused products actually use this  
6 approach and therefore avoid the '529 patent by shifting the  
7 inverter frequency instead of shutting down the inverter?

8 A. Yes, they do.

9 Q. Okay. Which products use that mechanism?

10 A. That would be compact fluorescent 1 and 2.

11 Q. Would you describe to the jury how compact fluorescent  
12 group 1 and 2, two of the seven groups, how they operate in a  
13 way that shows this approach to avoiding the '529 patent?

14 A. Well, the difference -- Well, in those two series  
15 products, what happens is it -- it depends upon exactly what  
16 fault happens, but if it senses a lamp is -- for example, a  
17 very hard to start lamp, in the '529, it only has one option.  
18 It -- it stops oscillations. When it detects a fault,  
19 whatever the fault is on the output and the voltage rises at  
20 the intermediate node, it shuts down. That's only option.

21 Now, with compact fluorescent products 1 and 2, what  
22 happens, if it senses certain types of defects, for example, a  
23 lamp will not start, it's an a new lamp, it's hard to start,  
24 it -- there's a pulse that's sent into the -- it's what's  
25 called EN 2, in IC, excuse me. What that does, it shifts the

1 operating characteristics of the inverter. The IC actually  
2 can control that. So, instead of just shutting down, it  
3 shifts the mode. That's actually what -- that's what they're  
4 talking about here. It says, shifting the inverter frequency  
5 instead of shutting down the inverter. See, that's exactly  
6 what that does. It senses a fault on the output and then  
7 shifts the frequency of the inverter to actually restart or  
8 prevent an issue.

9 Q. Are there other ways in which the CFL 1 and CFL 2 group  
10 products are different than the control means of the '529  
11 patent?

12 A. Well, yes. They initiate oscillations differently.

13 Q. If -- With the CFL products, if you remove a lamp, do  
14 oscillations stop?

15 A. Yes.

16 Q. What's this demonstration show us?

17 A. This is a schematic diagram of the C 2642 that is a  
18 representative sample for compact fluorescent group 1 or --  
19 yeah, group 1.

20 Q. Okay. This is actually the schematic that was used by  
21 Dr. Roberts in his testimony and they've -- they added lamps  
22 to it and you've now Xed out the lamps. What are you showing  
23 us?

24 A. What I'd like to show is that when the DC path is broken  
25 and there's no DC signal at all, the inverter will still

1 start. And, in fact, these particular products will still  
2 start lamps versus the '529 which will never start to  
3 oscillate when a DC path is broken.

4 **MR. SUDER:** Excuse me, Your Honor. I believe that  
5 this would violate the Court's ruling at the start of the  
6 trial this morning. This testimony on this product by this  
7 witness is based on the testing that was done by Mr. Poehlman.

8 **MR. ROUTH:** That's not correct, Your Honor. This is  
9 done by the witness's knowledge of the products and the  
10 knowledge of the schematics. If there's testing on this that  
11 confirms it, Dr. Burke has done his own testing on it as well.

12 **THE COURT:** Have you done either your own -- are you  
13 relying on Mr. Poehlman's testing?

14 **THE WITNESS:** Not at all.

15 **THE COURT:** Okay. Then that's overruled. Ladies and  
16 gentlemen, I neglected to mention, Exhibit No. 143 -- I'm  
17 striking Exhibit No. 143 which related to tests that  
18 Mr. Poehlman said he conducted and then I'm also instructing  
19 you, like I did earlier in the trial on some different  
20 testimony, not to consider any of the testimony Mr. Poehlman  
21 gave about the testing that he did just in advance of trial.  
22 For legal reasons, you should not consider that in your  
23 deliberations. Thank you.

24 **MR. ROUTH:** Your Honor -- I'm sorry.

25 **BY MR. ROUTH:**

1 Q. Mr. Burke, in your report, you reported on -- yeah, that's  
2 fine. Actually take that down now. In your report, you  
3 reported on the fact that in the CFL devices, oscillations  
4 would begin if you powered up the lamp, powered up the ballast  
5 even without lamps in it, didn't you?

6 A. I did.

7 Q. And did you prepare something to demonstrate that to the  
8 jury?

9 A. I have a video to demonstrate that, yeah.

10 MR. SUDER: Your Honor, we've not been furnished a  
11 video.

12 MR. ROUTH: This was given to you with his  
13 demonstratives evening before last.

14 MR. SUDER: Hard copy of a stack of documents does  
15 not mean that it's a video. We have no way of knowing it was  
16 a video.

17 MR. ROUTH: We sent you an e-mail that contained  
18 everything electronically. And you have it on the thumb drive  
19 as well.

20 THE COURT: So, when did you provide them to him?

21 MR. ROUTH: The night before last, which was our  
22 agreed upon schedule, Your Honor.

23 MR. SUDER: I didn't know there was a video included  
24 when I get a stack this thick, but I just think it's improper.

25 THE COURT: Overruled.

1 MR. ROUTH: We didn't --

2 THE COURT: Overruled.

3 BY MR. ROUTH:

4 Q. Mr. Burke, we're going to play something -- I would like  
5 you to talk to the jury and let them know what they're seeing  
6 because you're going to understand it better than I will, sir.

7 A. Okay. This is a 26 -- C 2642 UNV. What that means is  
8 compact fluorescent. It's -- 2 is two lamp. 26 is 26 watt,  
9 42 is 42 watt. UNV is universal voltage, and then BES means  
10 bottom exit studs. That's the configure of the case. What I  
11 showed is it was attached to a 26 watt lamp.

12 If you will look, it's actually connected --

13 MR. SUDER: Excuse me, Your Honor. This is the very  
14 product --

15 THE COURT: Stop the video.

16 MR. SUDER: This is the very product that  
17 Mr. Poehlman tested and it is improper based on your ruling  
18 for this witness to now even if he did his own testing after  
19 he spoke with Mr. Poehlman, Mr. Poehlman tested this very  
20 product and discussed it with Mr. Burke. And that -- that --  
21 that's the exact issue we had, is that this product cannot be  
22 considered by this jury.

23 MR. ROUTH: Your Honor, the reason why you wanted to  
24 not have Mr. Poehlman's testimony admitted on that subject is  
25 he didn't submit a report. Mr. Burke submitted a report and

1 reported this exact same result on this exact same product, as  
2 did Dr. Roberts at his deposition testified he got the same  
3 result on this product.

4 **THE COURT:** Overruled.

5 **MR. ROUTH:** Thank you.

6 **BY MR. ROUTH:**

7 Q. Mr. Burke, would you continue. And I apologize for the  
8 interruption, sir.

9 A. What also -- it's connected per the wiring diagram for one  
10 lamp which means the blues are connected to one part and --  
11 filaments are one lamp and the reds are connected to the other  
12 end of the lamp.

13 What we want to show -- that's, of course, a 26 watt  
14 lamp. I actually connected directly to it so you can see  
15 exactly what's happening. See, I've got them connected  
16 directly to the pins which goes on to the filaments of the  
17 lamp.

18 Q. This is one of the CFL products that's accused in this  
19 case, it's a representative product for CFL Group 1, correct?

20 A. That's correct. Now, the DC flows through the red and  
21 then back through the blues, through both wires. So, what I'm  
22 doing right now is breaking the DC path and I'm going to leave  
23 that open so you can see -- I'm going to break it on both  
24 sides. And -- I have it set up so that when I throw that  
25 switch right there, it will apply 120 volts to the ballast.

1 So, I'm going to back up so you can see what's happening.

2 Throwing the switch. As you can see, the lamp lit.

3 Oscillation started. The lamp lit.

4 Q. With the five --

5 A. That's the input power to show you how much input power  
6 and the voltage that's input.

7 Q. So, Mr. Burke, with the control means of the '529, if you  
8 powered up the lamp with the DC current path broken, as you  
9 did by breaking the blue and the red filaments, would the  
10 lamps start in that device?

11 A. No.

12 Q. Are there differences between the CFL -- actually, what  
13 you just showed in terms of the start up with the DC current  
14 path broken, is that true of all the products in CFL Group 1  
15 and CFL Group 2?

16 A. Yes.

17 Q. Are there other differences with respect to those CFL  
18 Groups and the '529 patent? For instance, with respect to  
19 restrikes.

20 A. Yeah. Those two products are intended to restrike and  
21 especially what I just mentioned about in certain situations  
22 if the lamp doesn't strike, it actually shifts modes of  
23 operation in order to try to restrike the lamp.

24 Q. Could you explain what you mean when you say it's going to  
25 try to restrike the lamp? What happens and then what does the



1 ballast do?

2 A. Well, it -- what the ballast does, it senses when there's  
3 a problem on the output and it will try to restrike lamps.  
4 Now, in general, it won't try to restrike all the time.  
5 Generally, it restrikes just -- just so many times and it will  
6 shut down. It really depends upon the situation of the  
7 output. And sometimes lamps are failing really hard, you  
8 know, it's a hard failure, and the ballast will shut down very  
9 quickly. Sometimes it's not. For example, if it's a new  
10 lamp, it senses a problem on the output and instead of  
11 continuing operation, it will -- it will go back into the  
12 what's called pre-mode. That shifts the frequency, tries to  
13 preheat the filaments again and strike the lamps. Now, on new  
14 lamps sometimes that takes two or three times. Sometimes, of  
15 course, they start up right away. That's why we have that  
16 mode of operation.

17 Q. You may have just answered the question I wanted to ask  
18 but I want to make sure it's clear. Why would you have a  
19 ballast that tries to restrike rather than just shutting down  
20 when a defect is -- or when there's a sense of -- an over  
21 voltage sense.

22 A. I don't want -- very often, you know, when you put new  
23 lamps in, sometimes they don't strike the first time. The  
24 first strike of a lamp is very often more difficult than it is  
25 any other time. And, you know, if a guy just put a new lamp

1 in there, you want to make sure you try to start it. Now,  
2 with the '529, what would happen is it would run a while and  
3 shut down. With -- with these, it does attempt to restrike it  
4 and there's a much better opportunity for it to strike the  
5 lamps if it does it multiple times.

6 Q. Mr. Burke, is that difference, the ULT, CFL products  
7 attempt restrikes and the control circuit of the '529 patent  
8 has a one shot shut down, doesn't attempt to restrike, is that  
9 a substantial difference in your opinion as to the way in  
10 which the control means operates?

11 A. Yes. That's a substantial difference.

12 Q. Does ULT have a patent that covers the process by which  
13 they have this restriking capability in the control means?

14 A. Yes. This one we're showing here now.

15 Q. Have you done testing that shows the restriking of an ULT  
16 CFL lamp after the ballast has been shut down?

17 A. I have.

18 Q. Okay. And what did that show, sir?

19 A. Well, in that -- what it actually showed is the 2642. In  
20 that particular case, open circuit is what I showed and what  
21 it does is it continuously tries to restrike. It actually  
22 never shuts down, and -- but that doesn't necessarily --  
23 that's not indicative of every ballast in that series, because  
24 it depends upon the situation on the output. Sometimes  
25 they'll shut down. Sometimes they'll restrike three, four,

1 five, maybe nine, ten times and sometimes they'll shut down  
2 fairly quickly. It really depends what the load is -- Excuse  
3 me -- what the fault is on the output. That's why you have an  
4 IC, it can do more than just one thing for you and that's why  
5 there's a significant difference between the control means  
6 with ULT products and the control means outlined in the '529  
7 patent.

8 Q. Mr. Burke, did I understand you to say with the ICs in the  
9 ULT products they can sense different types of issues or  
10 situations in the ballasts and have different types of  
11 responses in terms of how often they restrike or try to  
12 restrike?

13 A. That's correct.

14 Q. To move things along, have you prepared a chart that  
15 summarizes the different ways that CFL products and ULT -- of  
16 ULT -- the different ways they start oscillations versus the  
17 '529 patent?

18 A. I have.

19 Q. Is this that chart, sir?

20 A. Yes, it is.

21 Q. Okay. Could you just -- you've touched on some of these  
22 already, but could you move through this chart and just  
23 explain to the jury any differences that haven't already been  
24 explained in terms of how the ULT CFL products work versus the  
25 '529 patent control means?

1 A. In the first -- the '529, I explained before, it has a DC  
2 control, but that also powers the control means. Now, in  
3 ULT's products, the DC control path doesn't always power it.

4 Now, on initial oscillations or initial start up,  
5 what I showed you is it will start without a DC path in it,  
6 with it removed. That's a significant difference. It's -- in  
7 this case, ULT products will shut down if the DC path is -- if  
8 you get a signal from the output that requires a shut down, it  
9 will shut down. But it doesn't do the same thing on initial  
10 power up. So, on the '529, the circuit does the same thing on  
11 initial power up and when the lamps are removed or defective  
12 and after they're replaced. The ULT products don't.

13 On the structure of the '529, it's clearly rapid  
14 start. In ULT's products, it's program start. That's a much  
15 more sophisticated way of starting a lamp. There isn't any  
16 second series path that I talked about. In fact, the ULT's  
17 product worked exactly the opposite way of the way the '529  
18 does.

19 The '529 is fairly simple. It's a one shot trigger  
20 mechanism and that particular mechanism, by the way, is -- it  
21 goes back into patents well into the 70s. And, you know, that  
22 particular structure of the control means is obsolete now when  
23 you compare it to an integrated circuit. With the capability  
24 that they have, there's no reason to even consider a circuit  
25 like that. And, of course, the handful of components that

1 aren't particularly -- you can't do a whole lot with it versus  
2 an IC which you can do an awful lot with it.

3 Q. Mr. Burke, I think you've moved through these points. Let  
4 me just ask you if you -- on the issue of the program start  
5 versus rapid start. Why is it that you say that the '529  
6 patent is a rapid start on the one hand while the ULT product  
7 is program?

8 A. Well, the structure that's outlined in the patent is  
9 clearly rapid start and that's outlined in claim 1 and  
10 figure 1 is clearly rapid start. That's what the structure  
11 tells me it is.

12 Q. The structure of the control means as set forth in the  
13 bottom of column 3 and top of column 4, that's structure?

14 A. Right.

15 Q. Would that support program start, sir?

16 A. No.

17 Q. Let me ask, have you done a test that shows the difference  
18 between program start and rapid start?

19 A. Yes, I have.

20 Q. Can we put that up as 12, please. This will allow you to  
21 explain to the jury --

22 A. Shall I go up there?

23 Q. Sure. Yes, sir.

24 A. Now, in program start, you'll see a lot of similarities,  
25 for example, in one here. You know, there's a lot of

1 similarities, but the one I really wanted to point to is this  
2 one right here. That's the output voltage. Now, you can see  
3 on program start, the voltage is kept very low for a -- for  
4 quite a period of time. Now, it takes some sophisticated  
5 technology and circuitry in order to make that happen because  
6 you have to shift the mode of the inverter and the control  
7 circuit has to do that, and so what they're doing is for a  
8 period of time, to heat the filament, it's kept very low.  
9 Now, they do that because you don't want to ionize the lamp at  
10 all, because if you don't ionize the lamp, it won't damage the  
11 filament. So you bring the filaments up on to what we call  
12 electron emission temperature and then you strike the lamp.  
13 So, it strikes very quickly and with very little damage to the  
14 filament.

15 Now, versus rapid start, you see this one here, which  
16 is what the '529 is, you apply fairly high voltage immediately  
17 along with the filament voltage. During that period of time,  
18 there's damage being done to the filament. So then you see  
19 when it starts, that period of time right there, it also  
20 damages the filaments. So, this is a much more sophisticated  
21 way of controlling an electronic ballast to improve, you know,  
22 filament life of lamps.

23 Q. Mr. Burke, in addition to showing the slide we saw a  
24 moment ago that summarizes the differences between the ways in  
25 which CFL Group products start oscillations versus the '529

1 patent control means, did you also do a summary chart on the  
2 differences and the way they shut down -- the ULT products  
3 shut down oscillations?

4 A. I have.

5 Q. Could you bring that up, please? Is this that chart, sir?  
6 You know what, I'm sorry --

7 A. Yes.

8 Q. Thank you.

9 A. Yes.

10 Q. Could you just take a couple of minutes and explain these  
11 differences. I think the jury has heard about many of them,  
12 but explain these differences.

13 A. Well, again, in the '529, it has one -- one reaction to a  
14 fault. It shuts down. It does try to restrike. It doesn't  
15 do anything else. In -- in the ULT products, it has other --  
16 you can program this thing to do many things, depending on  
17 what's happening to the the output and what kind of fault  
18 there is. So, it can attempt to restrike or it might shut  
19 down, either one.

20 In the '529, it only refers to a voltage sense  
21 detection and it has one type of shut down. In ULT products,  
22 very often there might be three different. In this case,  
23 there actually is -- you know, in -- in the -- some of the  
24 product, there's actually three different types of fault  
25 detection. One of them is a voltage detection, not the same

1 as the '529, but, you know, similar. There's also a current  
2 sense which senses the current actually in the drain of some  
3 of the FETs that are actually drawing resonant tank, and then  
4 also -- There's no one shot device. That means you have more  
5 than one opportunity to sense what's going on and shut down.  
6 So, you don't just, you know -- you just don't hit it one time  
7 and it's off, whatever happens. And then, of course, the use  
8 of ICs versus those discrete components.

9 Q. In addition to this summary chart, did you do a summary --  
10 Let me ask it in an open way. Do the ULT CFL accused  
11 products, those in groups 1 and 2, do they achieve a different  
12 result than the result brought about by the control means of  
13 the '529 patent?

14 A. Well, yes.

15 Q. You have a summary chart that describes the ways in which  
16 those results are different?

17 A. Yes.

18 Q. Can we bring that up, please? Is this that chart, sir?

19 A. Yes.

20 Q. Okay. Could you explain to the jury the way in which the  
21 CFL ballasts that ULT makes themselves are different from the  
22 '529 patent as a result of the control means?

23 A. As I mentioned, in the '529, one of the objectives of the  
24 control means is not to draw any power from the power line.  
25 ULT products do. They draw power from the power line when



1 it's shut down. The ballasts for the '529 will not start to  
2 oscillate on its own when a fault is detected. It shuts down  
3 and it's down. Now, a compact fluorescent ballast for ULT  
4 will start oscillations after a fault is detected. Now it  
5 will do it in a couple of different ways, but it can restart  
6 oscillations.

7 Q. On the last one, sir, it looks like the boxes are the  
8 same. Is that correct?

9 A. That's correct. Now, in the last part of it, to start --  
10 I mean, to reinitiate oscillations after lamps have been  
11 replaced, that's right. That -- you know, that's -- that's a  
12 feature that does -- that is in the ULT products.

13 Q. So you would say there is that one similarity in results  
14 between the ULT products and the --

15 A. Right. ULT products do do that, yes.

16 Q. Given that they are similar in that way and different in  
17 the other ways, do you have an opinion as to whether the  
18 results achieved by the ULT CFL products are substantially  
19 equivalent to the control means of the '529 patent?

20 A. They are not equivalent and there are substantial  
21 differences, yeah.

22 Q. Have you done any testing, sir, to show what would happen  
23 with the CFL products when a lamp is removed or defective?

24 A. Yes.

25 Q. Let me ask you to bring up slide 18, please. Let's move

1 on. I think we've covered the CFL products. I would like to  
2 move on to the ULT Linear 1 to 3 ballasts. So, groups 1, 2,  
3 and 3 of the linear ballasts that ULT makes. Have you reached  
4 an opinion specific to those products as to whether there are  
5 common reasons why those products are substantially different  
6 from the control means of the '529 patent?

7 A. I have.

8 Q. Have you prepared a chart that sets forth the reasons or  
9 the ways in which the ULT Linear 1 through 3 products are  
10 different in the way they start up oscillations?

11 A. Yes.

12 Q. Okay. Let me bring that up, please. Is this that chart,  
13 sir?

14 A. Yes.

15 Q. Can you explain to the jury what you're summarizing here  
16 about the differences between the ways ULT Linear 1 through 3  
17 ballasts work versus the ways the '529 control circuit works?

18 A. In a lot of ways it's the same thing as the compact  
19 fluorescent. If you look at, again, DC control -- DC control  
20 path doesn't always use the DC control path to initiate  
21 oscillations. It has the different -- on initial power up,  
22 it's different than mode A of the '529. It's program start.  
23 It's a different structure. There's no second series path  
24 there at all.

25 The complex starting and programming of the IC, it's

1 not a one shot equivalent. And, of course, the -- and, of  
2 course, use of ICs, which actually makes all that possible.

3 Q. It says here at the bottom, the last one is -- '529 patent  
4 uses a handful of discrete components. The ULT products use  
5 an IC. We've gone through that. I want to go to a point that  
6 has come up in the case which is my statement that the ICs in  
7 ULT products rendered obsolete or virtually rendered obsolete  
8 in Mr. Bobel's patent. Do you have an view on that, sir?

9 A. The answer is yes and I can't imagine anyone today using  
10 the discrete components in the '529, given -- given ICs as the  
11 way they are now.

12 Q. You view the Bobel patent as virtually obsolete?

13 A. Yes.

14 Q. Now, if the ULT Linear 1 through 3 products are the same  
15 in all these ways, why do we break them into three groups?

16 A. Well, there are some differences in them.

17 Q. Are there differences in how they shut down the  
18 oscillation?

19 A. Well, that and -- that's correct and also a difference in  
20 how they sense a fault.

21 Q. Okay. So, let me then ask you: Did you prepare a summary  
22 chart on the different ways that the ULT group 1 ballasts shut  
23 down oscillation?

24 A. Yes.

25 Q. Bring that up, please. Does this chart summarize the

1 way -- just look at the ULT group 1 products -- the way in by  
2 they're different from the '529 control means in shutting down  
3 oscillation?

4 A. Okay. Yes.

5 Q. Could you explain to the jury how -- these differences  
6 that you've noted here?

7 A. This case --

8 Q. Let me just say, Mr. Burke, on some case they do overlap  
9 which you've already explained, you can summarize or tell the  
10 jury about things you haven't already told them with respect  
11 to other products.

12 A. In this case, the main difference here is No. 1. In the  
13 case of, of course, the '529, there's one shut down mechanism.  
14 That's it. In the case of ULT group 1, there's a filament  
15 sense that can shut the ballast down and there's also a  
16 voltage sense that can shut the ballast down. And there also  
17 is a current sense that can shut the ballast down. So, I  
18 mean, there's multiple ways that ULT products can sense a  
19 fault in the output and shut down. So, that, to me me, that's  
20 a significant difference between the ULT products and the  
21 '529.

22 Q. Mr. Berry touched on this yesterday. What type of sensing  
23 does the '529 patent use to detect the defect and shut down?

24 A. That's voltage sensing.

25 Q. You just said there are three different types only one

1 of which is voltage sense used in shutting down oscillations  
2 in ULT Linear 1 group 1 products. Just summarize for the jury  
3 the differences between the voltage sense and the other two  
4 sense mechanisms.

5 A. In one case, the voltage sense is one parameter in a  
6 circuit. Generally, there's three parameters, their voltage  
7 and current and then -- you can actually use all three of  
8 those. But in this case, '529 uses just voltage and, of  
9 course, ULT uses -- uses the the other two or -- the other  
10 three, actually, to sense a fault.

11 Q. Let me ask you if you've also done a summary slide on the  
12 ways in which the ULT Linear Group 2 ballasts, the accused  
13 ballasts, are different than the control means of the '529  
14 patent?

15 A. Yes.

16 Q. Would you bring that up, please? Okay. Does this chart  
17 summarize those differences, sir?

18 A. Yes.

19 Q. Okay. And what differences in how the Linear Group 2  
20 ballast shut down on oscillations, what are the differences we  
21 haven't touched upon on in discussing the linear group 1?

22 A. In this case, the only difference in that is this  
23 particular group it doesn't have any voltage sense at all. It  
24 only has current shut down sense. It's only sensing a  
25 different -- different circuit parameter from the '529 patent.

1 Q. So, the sensing mechanism of the '529 patent, the voltage  
2 sense is absent completely from --

3 A. It's absent, yes. It's absent in this.

4 Q. Let me ask you if you prepared a summary sheet to show the  
5 the differences between how ULT linear group 3 products shut  
6 down oscillations as compared with the control means of the  
7 '529 patent?

8 A. Yes.

9 Q. Could you bring that up, please? And on this chart again,  
10 sir, could you tell the jury anything that you haven't already  
11 explained in terms of differences with respect to the earlier  
12 discussed product groups?

13 A. In this case it has two different types of shut downs and  
14 this one has voltage and a current sense.

15 Q. Do the ULT linear group products also have different --  
16 reach different results than the control means of the '529  
17 patent reaches?

18 A. Yes.

19 Q. And you have a summary slide on that. Is that correct?

20 A. Right.

21 Q. Would you explain looking at this summary slide what are  
22 the differences between the way ULT's linear product groups 1  
23 through 3, the results they reach and the results reached by  
24 the control means of the '529 patent?

25 A. It's pretty much the same as the other. It won't draw any

1 power from the power line whereas the '529 will. It will  
2 initiate oscillations after fault detected. And, of course,  
3 it can replace -- of course, again, it can shut down and with  
4 replaced lamps it can strike again -- strike lamps again.

5 Excuse me.

6 Q. Again, is it the case that the last situation you will  
7 acknowledge is similar between the ULT products and the '529  
8 --

9 A. Yeah. That's summary, yeah.

10 Q. Taking account of all these -- the similarities and  
11 differences in results reached by the linear ballasts -- ULT  
12 linear ballasts and the control means of the '529 patent, do  
13 you view them as substantially different?

14 A. They are substantially different, yes.

15 Q. Have you prepared a demonstration video to show the jury  
16 that will allow them to see the differences between the ULT  
17 linear products and the '529 control means?

18 A. I have.

19 Q. Okay. Again, if you could tell the jury what they're  
20 seeing --

21 A. Okay.

22 Q. -- as it comes up.

23 A. Again, when I throw that switch, that's going to apply 120  
24 volts to the input of the ballast. The ballast we're testing  
25 right now is actually a group 1 representative -- Linear

1 Group 1 representative sample. It's a ballast -- two lamp 54  
2 watt. It's program start, universal input voltage, and the D  
3 is the case size we see here. The lamps connected to it are  
4 two 54 watt lamps.

5 Now, we have it connected in accordance with the two  
6 lamp wiring diagram that's on the ballast and, of course, that  
7 means the lamps are blue and there's the -- that's how it  
8 connected, the blue are connected to those two terminals which  
9 are connected to the filament of that lamp there. The reds  
10 from the ballast are connected to those two terminals which  
11 are connected to the filament of that lamp. And the yellows  
12 are connected to the two filaments, one to that terminal there  
13 through that -- through that one filament to that other  
14 terminal, and then, of course, I have those two terminals  
15 connected, and then it goes through the filament of that lamp  
16 and then back to the ballast.

17 What I want to show is that when you break the DC  
18 path, it will still initiate oscillations and, in fact, will  
19 strike the lamp. I'm throwing the switch now. As you can  
20 see, the lamps lit and oscillations were initiated. And  
21 that's something the '529 -- something equivalent to the '529  
22 but never did.

23 Q. Mr. Burke, there's a group of products -- it's called a  
24 group of products, it's the ULT Linear Group 4 ballasts, but,  
25 in fact, there's one ballast in that group.



1 A. Right.

2 Q. I'm not even going to put up slides or do demonstrations.  
3 I'm just going to ask you. Is it your opinion that the ULT  
4 group Linear 4 products different from and operate in a  
5 different way and reach different results than the control  
6 means of the '529?

7 A. Yes.

8 Q. Can you just summarize why and to the extent you've  
9 already discussed issues, you can just reference them.

10 A. Well, it's substantially different results. In this case  
11 it uses the same path to initiate oscillations but when it  
12 comes to detecting faults and -- it uses the same technology  
13 the others do. So, it's substantial different than what --  
14 than what the '529 is.

15 Q. There's one final group of products we haven't covered.  
16 The seventh group of accused products is sometimes referred  
17 to -- it has been referred to in the case as the ES or ESI  
18 group, sometimes referred to as the microcontroller group.  
19 You are familiar with those products?

20 A. Yes.

21 Q. What distinguishes those products from the the products  
22 we've already discussed

23 A. They're controlled by a microprocessor and the  
24 microprocessor controls the ballasts which means there's a  
25 microprocessor that controls the functions of the ballast.

1 Q. We've heard about integrated circuits, we've heard about  
2 microprocessors. What's the relationship between the two of  
3 them?

4 A. Well, in the case of a -- it's like a small computer. You  
5 can actually program it to do various things and get it to do  
6 various types of things that you want -- that micro  
7 controllers do, different inputs and different outputs, and  
8 with that you can program it to control those.

9 Q. Have you prepared a chart that summarizes the differences  
10 between the way the microcontroller group products start  
11 oscillations on the one hand and the way the control circuit  
12 58 of the '529 patent starts oscillation?

13 A. I have.

14 Q. Bring that up, please. Some of these like rapid start  
15 groups and program start we've discussed already. If you  
16 could just go through -- actually, if you could go through and  
17 identify each of them but you don't have to discuss them at  
18 length, certainly, if you've already discussed them?

19 A. The first one I've already discussed. This one, of  
20 course, does not --

21 **THE COURT:** Speak into the microphone.

22 **THE WITNESS:** I'm sorry.

23 A. Does not always use the DC control signal. There's the  
24 second path. We talked about that. In this case, what I  
25 talked about before, there was a difference between the

1 initiation of oscillations between when the start up and  
2 re-lamping. In this case, that's really the same on this kind  
3 of product. The micro controller controls it that way. It  
4 senses the filaments and then starts or stops depending on  
5 that. It's a -- it's complex starting, it's a program start,  
6 and it's not a one shot or diode equivalent. Of course, it  
7 uses a microcontroller that you can program to control all of  
8 this.

9 Q. You said there was I think one similarity there and five  
10 differences in how you identified the way the ESI ballasts  
11 start oscillations versus the '529 patent. How do you view  
12 this about those differences in similarities yet taken  
13 together are substantially the same or substantially  
14 different?

15 A. They are substantially different in this one as well.

16 Q. As an engineer experienced in this area, can you give us  
17 some understanding of whether they're different but close to  
18 being substantial, or what's your view?

19 A. They're -- Well, I mean, they're far apart. The  
20 difference between I guess roller skates and a car. There's  
21 very difference -- significant differences between them.

22 Q. All right. Have you prepared a summary sheet on the  
23 differences or similarities between the ways in which the  
24 micro controller products of ULT comparing them with the '529  
25 patent control means?

1 A. I have.

2 Q. Bring that up. Again, some of these you discussed but I  
3 would like to touch on them so it's clear there's differences  
4 in similarities you found on the way the products shut down  
5 oscillations.

6 A. In this case, the ESI has two different fault mechanism.  
7 One is current. One actually senses asymmetric in the lamp.  
8 That's different from everything else we've looked at. It can  
9 attempt -- it does attempt to restrike in some cases and I can  
10 show you that a little later. There's no one shot mechanism,  
11 nothing equivalent to it, and it uses a microcontroller to do  
12 this. Much more sophisticated and much more complex.

13 Q. Have you prepared a demonstration that shows -- I'm sorry.  
14 Before I do that, have you prepared a summary slide on the  
15 differences in the results achieved by the --

16 A. Yes.

17 Q. -- microcontroller group and the '529? Can we bring that  
18 up for the jury and could you just explain to the jury what  
19 they're seeing, Mr. Burke.

20 A. Like many of the other groups, it draws power -- it  
21 will -- it will oscillate when the DC path is interrupted. It  
22 will once again when lamps are replaced, it will initiate  
23 oscillation.

24 Q. So, again, Mr. Burke, I may have gotten in your way there  
25 as you were describing that. You have a demo that you've

1 prepared on the ESI ballast?

2 A. I have.

3 Q. Okay. And it's I think going to be shown now. What are  
4 we seeing?

5 A. This is a representative sample of the ESI products. As  
6 you can see, this here, the ES is energy savings. That case  
7 is a 2 and 1 lamp. It's for T 8 lamps in this case. That's  
8 32 and 25 watt, or in this case 17 watts. It's universal  
9 input voltage which means 120 to 277. Those are the lamps we  
10 have on it which are two 232 watt lamps and the A, dash A,  
11 that's this particular case that we're showing right here.

12 Now, it's connected in accordance with the two lamp  
13 wiring diagram you see at the end. Now, what that means is  
14 the reds, in this case, go to, once again, those two filaments  
15 which go to -- or those two terminals. It goes to the  
16 filament of that lamp, and then the blues go to those two  
17 terminals which goes to the filaments of that lamp. The  
18 yellows now are connected to the other end with these two  
19 lamps in the same manner as the other one was, where the  
20 ballast comes to that terminal which goes through that  
21 filament there, that lamp, to that terminal, and, of course, I  
22 have it connected to that terminal which goes through the  
23 filament of that lamp. And then back to the ballast.

24 What I want to show is when the DC path is  
25 interrupted, the ballasts will tend -- will attempt restrikes.

1 Now, DC goes through the reds, through the yellows, through  
2 the blues. Once again, when I throw that switch, I'll apply  
3 120 volts to the input of the ballast. Throw the switch. The  
4 lamps strike. In this case, the microcontroller senses that  
5 filament is missing, so I turn the ballast off. It attempted  
6 restrike. Still missing. Turned it off. It attempted  
7 restrike again. And -- Well, for the last time.

8 Q. Mr. Burke, if you'd done the same test using a ballast of  
9 the '529 patent claim 1, what would have happened?

10 A. It would have shut down and not started again.

11 Q. Never would have started?

12 A. Never would have started again, right.

13 Q. And the ULT products with the microcontrollers, they will  
14 attempt to strike and strike and then attempt to restrike  
15 multiple times?

16 A. That's the way that particular one is programmed, yes.

17 Q. You could program that literally to do different type  
18 restrike scenarios. Is that correct?

19 A. You can. You can do that, yes.

20 Q. I'm going to move to a different claim now. I'm going to  
21 walk over to the jury. There's a claim term output terminals  
22 connected to the filaments of the gas discharge lamp. Do you  
23 see that?

24 A. I do.

25 Q. It's been argued to the jury, told to the jury, that in

1 your report you agreed that that requirement was met by ULT  
2 ballasts. Is that accurate?

3 A. No.

4 Q. How do you read that claim term as a person of ordinary  
5 skill in the art?

6 MR. SUDER: Excuse me, Your Honor. There's nothing  
7 in his report on this issue and we're entitled to rely on his  
8 report for -- on Rule 26 for all the bases on why he disagrees  
9 with Dr. Roberts and this is not one of them.

10 THE COURT: Is it in his report?

11 MR. ROUTH: He doesn't address this in his report.  
12 It's been told to the jury that he concedes something which is  
13 not conceded in his report and I want to bring out through  
14 Dr. Burke what his view is on this simply to respond to what's  
15 been inaccurately stated in court.

16 THE COURT: Remind me who told the jury he  
17 conceded --

18 MR. ROUTH: Mr. Suder and Mr. Roberts -- Dr. Roberts,  
19 excuse me. Dr. Roberts said in Mr. Burke's report he concedes  
20 that they meet that and Mr. Burke didn't concede that at all.

21 MR. SUDER: Dr. Roberts said Mr. Burke doesn't  
22 address it and under the rules Mr. Burke is required to set  
23 forth all the reasons he disagrees with Dr. Roberts and this  
24 is not one of them.

25 MR. ROUTH: I'm going go to why Dr. Burke --

1 A. Well, there were noninfringing alternatives.

2 Q. Did you identify a specific noninfringing alternative?

3 A. I identified one, yeah.

4 Q. What was that?

5 A. That was a transformer in the output that sensed filament  
6 current.

7 Q. Is that a strategy that's used in one of ULT's products?

8 A. No, that was a strategy that was rejected by ULT.

9 Q. And -- but it's one that would have worked?

10 A. Well, it would have worked, yeah. But, again, it was --  
11 it was never implemented.

12 Q. Why was it not implemented?

13 A. We thought there were better ways of doing it and we had  
14 determined that we could actually use the resistor networks  
15 that we have now instead and it was a good way of doing it.

16 Q. Would there have been a cost difference between this  
17 alternative strategy and the strategies that are actually used  
18 by Universal Lighting Technologies --

19 A. Yes. The -- I'm sorry. The strategies that -- that  
20 strategy would have cost more.

21 Q. How much more, sir?

22 A. If my memory serves, it was in, you know, the .15 area  
23 .14?/.13 cent area. Something like that.

24 Q. Your report says 11 and-a-half cents.

25 A. Yes. That's right. The transformer minus the resistors.



1 That's right. Yeah.

2 Q. Are you aware of other strategies that have been  
3 implemented in products that you now understand are  
4 noninfringing alternatives?

5 A. Yes.

6 Q. What are those, sir?

7 A. Well, there's another way of doing filament sensing that  
8 doesn't require DC blocking.

9 Q. Are you aware, sir, that there are products that were  
10 accused of infringement in this case when you did your expert  
11 report and since the plaintiffs have withdrawn from the case?

12 A. Right. Yes, I do.

13 Q. Yeah. How does that affect, if at all, your opinion on  
14 the existence of noninfringing alternatives?

15 A. Well, I mean, one of those would apply as a noninfringing  
16 alternative as well.

17 Q. Lastly, you were an engineer at Magnetek in the 1990s and  
18 into the 2000s, correct?

19 A. Yes.

20 Q. What was your position during that period?

21 A. Well, in the 1990s -- in the 1990s, I was a product line  
22 manager for a while.

23 Q. Uh-huh.

24 A. I was vice-president -- I was director of technology. And  
25 I think I was director of engineering.

1 Q. There's been testimony and evidence presented during the  
2 trial of Magnetek engineers taking account of the '529 patent  
3 during the late 90s. You sat in trial and heard that  
4 testimony as to what was being said?

5 A. I did.

6 Q. Tell us what actually was happening during that time as  
7 far as your consideration and Magnetek's consideration of the  
8 '529 patent.

9 A. The '529 patent was a patent we were looking at and -- you  
10 know, there are hundreds of patents we have to look at. It  
11 isn't just that one. And, you know, we looked at various  
12 patents at various times, depending on what it is we were  
13 trying to do in the market at the time. Depending on what  
14 kind of products you want to put out on the market, that  
15 really depends on what kind of technology you want to look at.  
16 And so, you know, you look at -- at those -- because you don't  
17 want to infringe on them. You want to make a product. You  
18 want to make a product that's cost effective and all that, but  
19 you don't want to infringe on existing technology. That's a  
20 lot of what's going on. And what we typically do is try to  
21 come up with alternatives. That's what was going on in the  
22 90s and it actually goes on all the time at ULT.

23 Q. Were you successful in finding alternatives to the '529  
24 patent and all the other patents you identified as shut down  
25 patents?

1 A. Yes.

2 Q. And are those alternative strategies ones that are  
3 reflected in the ULT products that we've been looking at  
4 today?

5 A. Yes.

6 MR. ROUTH: I have nothing further at this time, Your  
7 Honor, subject to my wanting to ask questions once I find that  
8 testimony for you.

9 THE COURT: All right.

10 MR. SUDER: May I have a moment to set up? All  
11 right, Your Honor. I'm ready.

12 CROSS-EXAMINATION

13 BY MR. SUDER:

14 Q. Mr. Burke, good morning.

15 A. Good morning.

16 Q. I'm John Suder. You've seen me in the courtroom but we've  
17 never met, sir, have we?

18 A. No.

19 Q. I never took your deposition?

20 A. No.

21 Q. All I have is your report.

22 A. Yes.

23 Q. Right? And I believe you said you retired. You retired  
24 in 2004?

25 A. Actually, no, I didn't retire in -- I left ULT in 2004.

- 1 Q. Okay. And you continued to do consulting work for ULT?
- 2 A. That's correct.
- 3 Q. And for Phillips?
- 4 A. I did.
- 5 Q. And do you still do work for Phillips?
- 6 A. No, I don't.
- 7 Q. All right. Now, sir, how busy are you these days?
- 8 A. Not -- not that busy.
- 9 Q. You enjoying the fruits of your hard work?
- 10 A. Pretty much.
- 11 Q. Yes. Now, sir, we were furnished with an 80 page report
- 12 from you.
- 13 A. Yes.
- 14 Q. Did you write that?
- 15 A. I wrote a lot of it, yeah.
- 16 Q. Did lawyers help you right that?
- 17 A. Yes, they did.
- 18 Q. And they provided a lot of information that you needed for
- 19 that report?
- 20 A. Yes.
- 21 Q. And there was a lot of videos and slides that Mr. Routh
- 22 used. Did you prepare those?
- 23 A. I gave the language to it.
- 24 Q. Who physically put those together? The lawyers did.
- 25 A. Yes.

1 Q. That's what you meant in your report. Now, fair --

2 THE COURT: Hold on.

3 MR. ROUTH: There were no CFL 1 and 2 groups at the  
4 time of Mr. Burke's report. It makes no reference to those  
5 and --

6 THE COURT: He just said that's right, so --

7 THE WITNESS: No.

8 MR. ROUTH: I think he tried to say no. I'm sorry.

9 THE COURT: Answer the question.

10 THE WITNESS: I tried to say, no, that's not quite  
11 right.

12 THE COURT: What is correct?

13 THE WITNESS: Could I hear the question again?

14 BY MR. SUDER:

15 Q. What you identified as group 5 in your report is now  
16 referred as CFL Group 1?

17 A. CFL Group 1 includes different stuff than what was in 5 --  
18 well, in that --

19 Q. Includes more.

20 A. Includes more, yes.

21 Q. You're even lumping more products in based on this one  
22 test, right?

23 A. That's -- that was a different test, but the group 1 and 2  
24 will meet -- will be the same as the tests that I conducted.

25 Q. Now, Mr. Burke, let me ask you: You were present in

1 opening statement --

2 MR. SUDER: Can I have this on, please?

3 BY MR. SUDER:

4 Q. This is the slide from Mr. Routh's opening statement. And  
5 it shows that in Mr. Bobel's patent there are discrete  
6 components within the control circuit, right?

7 A. Would you say the question again, please?

8 Q. There are discrete components in the control circuit as  
9 described in Mr. Bobel's patent?

10 A. Yes. Is there there is a diode, a resistor, a capacitor,  
11 a transistor, and a diac, right?

12 A. Yes.

13 Q. In all of the ULT products outside of the IC, there is a  
14 diode, right?

15 A. Yes.

16 Q. There is a resistor?

17 A. Yes.

18 Q. There is a capacitor?

19 A. Yes.

20 Q. There is a transistor?

21 A. Yes.

22 Q. And none of those are in the integrated circuit that  
23 Mr. Routh was asking you about?

24 A. That's correct.

25 Q. The only difference is that the integrated circuit has as

- 1 part of it zener diode, right?
- 2 A. From a component standpoint?
- 3 Q. Yes.
- 4 A. Yes, from a component stand point.
- 5 Q. It doesn't have a diac, it has a zener diac?
- 6 A. Zener diac, yes.
- 7 Q. And they do the same thing, don't they?
- 8 A. No.
- 9 Q. They don't?
- 10 A. No.
- 11 Q. Is a zener -- is a diac a suitable replacement for a zener
- 12 diode?
- 13 A. No.
- 14 Q. Are you sure about that, sir?
- 15 A. Yes.
- 16 Q. Well, let me show you -- We spent a lot of time talking
- 17 about the 652 patent that is the patent that you said is the
- 18 one that the CFL products use and that are accused of
- 19 infringement here, right?
- 20 A. That's right, yes.
- 21 Q. And it uses an IC. And it uses a zener diode, doesn't it?
- 22 A. It does.
- 23 Q. And this is an ULT patent?
- 24 A. It is.
- 25 Q. Let me show you on the bottom of column 9 it says -- let

1 me make sure I can blow this up so the jury can see it. One  
2 skilled in the art will recognize that the EOLL zener diode --  
3 and that's end-of-life, right?

4 A. End of lamp life.

5 Q. Yeah. Zener diode is acting like a voltage control switch  
6 in the EOLL DC comparison circuit and that other types of  
7 voltage controlled switches, such as diacs or transistors, may  
8 be used as well.

9 So, aren't -- isn't ULT saying that a zener diode and  
10 a diac for purposes of control circuits will do the same  
11 thing?

12 A. Well, that's what he's saying there, but I disagree with  
13 that.

14 Q. Okay. So, you -- and I take -- he told this to the patent  
15 office in a patent?

16 A. Yes, he did.

17 Q. Did you ever tell Mr. -- you know -- Ruha Sheed?

18 A. I know Ruha.

19 Q. Did you say, Ruha, what are you thinking? You've got it  
20 wrong.

21 A. I did.

22 Q. You did?

23 A. Yes.

24 Q. You take notes, what did you do, an e-mail?

25 A. I did it in a meeting with him.



1 Q. Okay. But, sir, according to this patent that every other  
2 witness has said exactly how these products operate, a zener  
3 diode is an equivalent to the diac in the '529 patent, right?

4 A. I can't answer yes to all that.

5 Q. You disagree. But according to this patent, that's an  
6 equivalent for this, isn't it?

7 A. That says that and that's actually what Dr. Roberts says,  
8 too. But they aren't equivalent.

9 Q. Now, sir, I believe you said that the ULT products are  
10 sophisticated products?

11 A. Yes.

12 Q. And I think you said they are a sophisticated improvement  
13 over the '529 patent. Those are your exact words?

14 A. It is, but it's significantly different.

15 Q. But a significant improvement doesn't translate into  
16 noninfringement, does it, sir?

17 A. An improvement doesn't, but significantly different does.

18 Q. That's right. An improvement doesn't. And that's why  
19 patents are good for twenty years, because people improve upon  
20 them. But once they expire, you're free to use it in any old  
21 way, right?

22 A. Then it's public domain, yes.

23 Q. Now, sir, you have a patent that discusses Mr. Bobel's  
24 patent, don't you?

25 A. Yes.

1 Q. And that is the 987 patent, right?

2 A. Yes.

3 Q. And in the 987 patent, you specifically disclose  
4 Mr. Bobel's patent?

5 A. Yes.

6 Q. But you also describe it, don't you?

7 A. Yes, I do.

8 Q. Let look at your description of what you told the patent  
9 office about Mr. Bobel's patent. It shows a circuit that  
10 disables an inverter in response to an over voltage condition  
11 occurring at the lamp. Once turned off it stays off until the  
12 defective lamp is replaced and then automatically restarts.  
13 It automatically restarts. It requires extra components such  
14 as a DC blocking capacitor to allow the circuit to sense a  
15 broken filament and turn off. Do you see that?

16 A. Yes.

17 Q. That's an accurate description of his invention, isn't it?

18 A. That describes some of what it does, yes.

19 Q. Sir, you don't say that Mr. Bobel's patent discloses that  
20 it doesn't power up on initial start up, because that has  
21 nothing to do with the invention. It's about when the lamp  
22 shuts down and restarts, and that's the focus of his  
23 invention, and you knew it when you told this to the patent  
24 office, didn't you?

25 A. No. That's not right.

1 Q. Sir, we are intended to rely your report, aren't we? And  
2 you didn't disagree with him that an energy conversion device  
3 is a ballast?

4 A. Yes.

5 Q. That this claim is talking about a ballast?

6 A. Yes.

7 Q. And if this is the title of the patent and everything  
8 about this patent is about a ballast, right?

9 A. Yes.

10 Q. What you disagreed with him was about the control means  
11 and the DC blocking means, right?

12 A. That's what I was responding to, yes.

13 Q. Okay. And you understand that the lawyers assisted you in  
14 preparing this report to make sure that you covered everything  
15 you wanted to cover and were required to cover so we would get  
16 notice?

17 A. They didn't say that. I was responding to Robert's  
18 report.

19 Q. Now, sir, you understood from Dr. Roberts that all the --  
20 that all the claim limitations are met by voltage source and  
21 output terminals. He said that in his report, didn't he?

22 MR. ROUTH: I object, Your Honor.

23 A. I --

24 MR. ROUTH: Go ahead.

25 BY MR. SUDER:

1 Q. Can I show you his report on page 29 and see if that  
2 refreshes your recollection that Dr. Roberts said that every  
3 accused product contains the element of output terminals  
4 connected to the filaments of the lamp. Does that refresh  
5 your recollection that he said that?

6 A. Where are you looking at here?

7 Q. I'm not asking you to -- I'm seeing if that refreshes your  
8 memory, sir.

9 A. Let me see.

10 Q. All right. Sir, in his report he says, second limitation,  
11 output terminals. In that section. And he says this  
12 limitation is met by all of the accused products.

13 A. Okay. Can I see it again?

14 Q. Yes.

15 A. Thank you.

16 Q. And all I'm asking, sir, is does that refresh your memory  
17 that when you were responding to Dr. Roberts's report you  
18 didn't disagree with him on that point, did you?

19 A. I did not.

20 Q. Thank you. Now, sir, as with any improvement, when you  
21 restrike a lamp, attempt to restrike, after that the  
22 oscillations shut down, don't they?

23 A. Eventually, yes.

24 Q. Yes. And you don't want to keep that on because that's  
25 not safe.

1 A. No, it could be safe. No, I -- it can be.

2 Q. It's safe to leave this on indefinitely?

3 A. Yeah. If you make it low enough voltage. That is one way  
4 instead of shutting down. You can change the operating  
5 characteristics.

6 Q. You could, but Universal didn't. They may try to restrike  
7 over a five, six second period, but then they shut down, don't  
8 they?

9 A. In general, yeah. That's what happens.

10 Q. So, if the lamp goes out in my garage and I can't get to  
11 it this Saturday and I remember to do it next Saturday, I can  
12 rest assured that's not a fire hazard because it's shut down,  
13 right?

14 A. Yes.

15 Q. And ULT and you as an engineer wanted to -- want to make  
16 sure that's the case, don't you?

17 A. Yes. That it's safe, yes.

18 Q. Safety is important, isn't it, sir?

19 A. Yes, sir.

20 MR. SUDER: I have nothing further, Your Honor.

21 REDIRECT EXAMINATION

22 BY MR. ROUTH:

23 Q. Let me just start where you left off. Is a ballast that  
24 doesn't shut down necessarily a fire hazard?

25 A. Well, no. I mean, ULT makes a lot of products that don't

1 a ballast that's not connected to the lamp, does it meet the  
2 requirement as set forth there in the first sentence of  
3 Dr. Roberts' report --

4 **MR. SUDER:** Objection, Your Honor. This is not in  
5 his report. We covered this and he was -- we were entitled to  
6 rely on that and now they're offering testimony that's not in  
7 his 80 page report. We covered that extensively.

8 **MR. ROUTH:** Your Honor, I can get Dr. Robert's  
9 testimony at the break but I thought counsel now just said,  
10 what I said -- said in this court before, which is somehow  
11 Mr. Burke's report agreed with Dr. Roberts by not responding  
12 to this. So, I --

13 **THE COURT:** You're going to have to show me that  
14 testimony. So, you'll just have to withhold until you can  
15 find that testimony.

16 **MR. ROUTH:** Okay. I apologize. I thought the  
17 impeachment that was just done opened the door to this, Your  
18 Honor. But I'll wait and get the --

19 **THE COURT:** It was not mentioned in his report which  
20 is a true statement and is not impeachment.

21 **MR. ROUTH:** I'll move to a different topic, Your  
22 Honor.

23 **BY MR. ROUTH:**

24 Q. On your demonstration done in your direct testimony where  
25 you showed the video with respect to linear lamps, I think you

1 started to answer a question Mr. Suder asked about what would  
2 happen if you removed the blue leads on the linear lamps.

3 Could you explain your answer there?

4 A. The lamps would strike, just like they did in that -- what  
5 I showed.

6 Q. So, in the demonstration you removed the yellow leads?

7 A. Right.

8 Q. And the lamp struck anyway, correct?

9 A. Right.

10 Q. Mr. Suder said why did you pick the yellow. If you had  
11 picked the blue, you would have had the same result, correct?

12 A. That's correct.

13 Q. And the blue leads are used on both a two lamp and one  
14 lamp configuration, correct?

15 A. That's correct.

16 Q. We've been over this, but I want to just be clear on it.  
17 You've said that the -- claim 1 is a one shot start/one shot  
18 stop. Is that correct?

19 A. That's what I said, yes.

20 Q. And Mr. Suder spent a lot of time pointing at this board  
21 saying you don't see it here. You don't see it here. But you  
22 kept saying but it's control means.

23 A. Yes.

24 Q. I want you to explain to the jury why you view the means  
25 of claim 1, even though the word one shot isn't there, as

1 being a one shot shut down and one shot start up mechanism.

2 A. Because when you look -- it says control means. That's --  
3 in patent language, that means you have to go back in the  
4 specification to understand what he's talking about and when  
5 you go back in the specification, what you clearly see -- he  
6 has it all over the patent, is that he is talking about a one  
7 shot to start the oscillations, one shot to stop the  
8 oscillations. And not only that, that's in his preferred  
9 embodiment. His control -- his control 58 has one shot  
10 control. So, I mean --

11 Q. Mr. Burke, let me take you to a specific part of the  
12 specification. The bottom of column 3, the top of column 4?

13 A. Yes.

14 Q. The part the Court has said is the corresponding structure  
15 for the control means.

16 A. Right.

17 Q. If you need to look at that, please do.

18 A. Okay.

19 Q. This is where he lays out the first, second, and third  
20 series current paths, correct?

21 A. Correct.

22 Q. Are those three series current paths, as they are laid out  
23 in that portion of the patent, what do they show with respect  
24 to whether it's a one shot or not?

25 A. It shows that one shot device and it -- it -- it is a text



1 description of the box in 58.

2 Q. So, when you testified that claim 1 includes one shot  
3 trigger, are you saying that's what the corresponding  
4 structure requires?

5 A. That's what I'm saying the corresponding structure of the  
6 patent is, yes.

7 Q. In terms of your testimony that claim 1 also provides that  
8 the oscillations of the ballast will be shut down and no power  
9 drawn if you remove a lamp, were you here for Mr. Bobel's  
10 testimony?

11 A. I was.

12 Q. Do you recall when I asked Mr. Bobel about whether that --  
13 those provisions of the patent could be found in any of the  
14 claims of the patent? Let me be clear.

15 A. Yes.

16 Q. Do you remember when I asked him whether the four  
17 different places in the patent where it talks about not --  
18 shutting down oscillations and not drawing power, I asked him  
19 are those four characteristics or four statements, are those  
20 found anywhere in the claims. Do you remember what --

21 A. Yes, I recall that, yes.

22 Q. What did he say?

23 A. He said oscillations -- Well, what I recall is he said  
24 oscillations equate to no power input.

25 Q. Did he say it was in any particular claim?

1 A. He said it was in claim 1, yeah.

2 Q. You were shown a February 14th, 1996 document. Do we have  
3 that? Let me look at 220. At this time, 220, what was going  
4 to be done with the Bobel shut down circuit in terms of the  
5 patent search that's referred to in claim 1 or in item 3?

6 A. Could you repeat the question again?

7 Q. Yeah. I'm sorry. I had something different up. Can you  
8 turn that off? I'm looking at Joint Exhibit 220 which is up  
9 on the Elmo. There's been much made of this. What type of a  
10 patent search is being referred to in item 3?

11 A. That's a patent -- that's a patent search that refers to  
12 specific shut down circuits.

13 Q. Is it an attempt to invalidate the '529 patent?

14 A. No. We were -- we were wanting prior art on shut down  
15 circuits at that time.

16 Q. And when you were gathering prior art, what was your  
17 purpose for doing that?

18 A. Well, end-of-life was a critical problem for us at that  
19 time and what we wanted to understand was what was in the --  
20 you know, what was out there in the art so that we could -- so  
21 we knew what we could use and what we couldn't use.

22 Q. You gathered all the patents that dealt with that issue  
23 together and looked at them. Is that correct?

24 A. In this case, no. What we wanted was European --

25 Q. This is 1996?

**Trial Transcript, Volume B, Dated June 16, 2011**

1 finding of infringement.

2 Q. Okay. And do you assume then there is a finding of  
3 infringement?

4 A. I have assumed that, yes.

5 Q. Is there any way that in making that assumption you have  
6 actually analyzed infringement and come to the conclusion that  
7 there is or is not infringement?

8 A. I have come to a conclusion that there is no  
9 infringement, relying on the technical testimony of Mr. Burke.

10 Q. But for purposes of your opinion, going the next step,  
11 you are going to say, "Well, let's assume there is  
12 infringement even though I think otherwise." And now I am  
13 going to tell you what I think about willfulness.

14 A. That is correct.

15 Q. With that in mind, what is your opinion about, whether  
16 whatever infringement is assumed here, whether it could be  
17 found willful or not?

18 A. It is my opinion that based on the control means element  
19 in Claim 1, and relying on Mr. Burke's testimony, and this  
20 control means is a so-called means plus function element, that  
21 there is a reasonable basis, at least a reasonable basis for  
22 concluding that all the ULT products lack this control means,  
23 and, therefore, there cannot be willful infringement.

24 Q. Okay. So your opinion that there cannot be willful  
25 infringement in light of the non-infringement position, does

1 that go to the objective or the subjective prong?

2 A. That is the objective prong.

3 Q. Do you have an opinion as to whether there could be  
4 willful infringement on the subjective prong?

5 A. It is my opinion, based on the testimony that I have  
6 heard and in light of hearing Mr. Goldstein's position, that  
7 there is no subjective prong of the test that is met as well.

8 Q. Let me get a little more detail, then, on the opinions  
9 you just offered.

10 With respect to ULT's non-infringement position, why is  
11 it that you say that it is a position that you think negates  
12 any reasonable inference of objective willfulness?

13 MR. ROUTH: Could you bring up the next slide,  
14 slide 5?

15 THE WITNESS: First of all, turning to, as I  
16 mentioned, the specific control means that is recited in  
17 Claim 1, turning to what happened in the prosecution history  
18 of the '529 Patent, there was a September 9th, 1994 office  
19 action rejection of Claims 1 through 5 under section of the  
20 statute 35 U.S.C. 102 that all these claims were anticipated  
21 by this Zuchtriegel reference. And so what that means is that  
22 the examiner was of the view that there was a one-to-one  
23 correspondence between elements in then pending Claim 1 in the  
24 Zuchtriegel reference.

25 In response to the examiner's rejection, the applicants

1 argued that Zuchtriegel, unlike the present invention, as  
2 positively defined by Claim 1, does not disclose a specific  
3 control means that is operable to effectively initiate and  
4 stop the oscillations of the resonant converter.

5 In order to properly interpret that sentence, it is  
6 necessary to take a look at the Zuchtriegel reference. And if  
7 one looks at the Zuchtriegel reference, there is a control  
8 means that actually has a DIAC that operates to effectively  
9 initiate, and that control circuit also operates to  
10 effectively stop the oscillations of the resonant converter.  
11 So in Zuchtriegel there is a control means that is operable to  
12 perform the functions of initiation and stopping. But what  
13 Zuchtriegel lacks is the particular control means. Its  
14 control means is different. And in my view this portion of  
15 the prosecution history shows the importance of the specific  
16 control means with respect to Claim 1.

17 Q. Okay. In your analysis of this case and of the '529  
18 Patent, what relevance does Zuchtriegel have? Does it require  
19 something or what does it do?

20 A. The significance of Zuchtriegel is -- I think it helps  
21 point out what is inherent in a proper means plus function  
22 analysis that it is not enough to have a control means that  
23 performs the functions that are claimed. It is required that  
24 there be either identical structure or equivalent structure.

25 MR. ROUTH: Your Honor, with permission I am going

1 to hand the witness the '529 Patent.

2 Q. (BY MR. ROUTH) You may or may not need this in  
3 responding to questions, but we are looking at Claim 1 in  
4 front of the jury and the control means. What is it about the  
5 control means limitation that you think makes the  
6 non-infringement position of ULT at least objectively  
7 reasonable?

8 MR. SUDER: Excuse me, Your Honor. I would object  
9 as to the timing of this. It is not what they think today.  
10 It is what they thought and what they did in 2005-2006 that  
11 would inform Mr. Nusbaum's opinion. So to just give a general  
12 statement that is this a good deference now is improper.

13 MR. ROUTH: Your Honor, I disagree with what  
14 Mr. Suder just said, but I think it is more important that the  
15 witness address it.

16 THE COURT: Overruled.

17 THE WITNESS: There is actually a slide that I think  
18 would be helpful to respond to that query.

19 Q. (BY MR. ROUTH) Which slide is that?

20 MR. ROUTH: Let's go to the next one.

21 THE WITNESS: It is the one prior to that.

22 MR. ROUTH: So go back to slide No. 4.

23 Q. (BY MR. ROUTH) Because the question that Mr. Suder just  
24 raised is what is the appropriate time frame for conducting  
25 the objective inquiry.

1 MR. ROUTH: I object. It misstates the Court's  
2 order or the testimony, I am not sure which. But nothing  
3 Mr. Nusbaum said was in conflict with what the Court said.

4 THE COURT: Have you read the orders that I have  
5 released?

6 THE WITNESS: Sir, I have some time ago.

7 Q. (BY MR. SUDER) So, sir, you are aware, sir, that  
8 Judge O'Connor ordered in regard to the Zuchtriegel argument  
9 you just made to this jury that "The Court agrees with LBC  
10 that the statement that you had quoted when read in context  
11 distinguishes the prior art by asserting the '529 Patent  
12 includes a particular arrangement of the control means and  
13 direct current blocking means. This statement does not  
14 constitute a clear and unmistakable surrender of any subject  
15 matter or particular structure related to the control  
16 means." You understand --

17 THE COURT: Have you read that?

18 THE WITNESS: Yes.

19 THE COURT: Okay.

20 Q. (BY MR. SUDER) So you understand that it has already  
21 been determined that what you said is not correct.

22 MR. ROUTH: Same objection.

23 THE WITNESS: I disagree with you.

24 Q. (BY MR. SUDER) With me or the Judge?

25 A. What I testified to was that if one looks at the



1 statement regarding Zuchtriegel where it says that Zuchtriegel  
2 fails to disclose a specific control means that initiates and  
3 stops oscillations, that if you look at Zuchtriegel you will  
4 find that there is a disclosure of initiating and stopping,  
5 and I concluded that that demonstrates that the specific  
6 control means in the '529 Patent was important. I didn't  
7 testify about disavow. I just said that when interpreted in  
8 context, that indicates that the specifics of that circuit is  
9 important.

10 Q. And so you drew that conclusion, and you are not one of  
11 ordinary skill in the art, are you?

12 A. I drew that conclusion based on talking with Doctor  
13 Giesselmann with respect to the operation of Zuchtriegel.

14 Q. Now, with regard to Doctor Giesselmann -- I have two more  
15 points and I will sit down. You only discussed with him one  
16 Japanese reference; you said the 794. That is the only one  
17 that is forming the basis of your opinion that these folks had  
18 a legitimate basis to claim that the patent is invalid.

19 Correct?

20 A. That is correct. Due to time constraints, that is all I  
21 looked at.

22 Q. Thank you. So to make sure, we are just talking about  
23 one specific reference. Right?

24 A. That is right.

25 Q. Now, sir, on this voltage source issue, you understand

1 that Mr. Patterson didn't raise this Section 112 in his letter  
2 to Mr. Bobel, did he? That the patent is indefinite in  
3 section 112, isn't it?

4 A. I am not aware that he raised that issue.

5 Q. Okay. In fact, he didn't, did he?

6 A. I don't believe he did.

7 Q. In fact, you haven't seen any letters from ULT or their  
8 attorneys to Mr. Bobel at that time saying that the patent was  
9 indefinite because of this voltage source means issue. Right?

10 A. That is correct.

11 Q. And, in fact, you haven't seen any evidence or testimony  
12 from any engineer that is skilled in the art that says they  
13 don't understand what that means, have you? You haven't seen  
14 a declaration, an affidavit, or any testimony whatsoever from  
15 anybody other than that everyone understands this refers to a  
16 rectifier. Right?

17 A. I haven't seen any such evidence. I don't know that that  
18 issue --

19 Q. And you, who are not of ordinary skill in the art thinks  
20 that that is a good, reasonable defense. Right?

21 A. I do believe that.

22 Q. Now, Mr. Nusbaum, you are a patent attorney.

23 A. Yes, I am.

24 Q. You write opinions. Right? For companies?

25 A. I do, yes.

**Trial Transcript, Volume C, Dated June 16, 2011**

1 we see CT is the current transformer. It senses the current.  
2 The inverter is a typical half bridge. It is Q 1 and Q 4.  
3 It's all outlined in red are the main transistors, the main  
4 switching transistors. They alternate. One turns on and one  
5 turns off.

6 If you want the turn it on and off, typically in  
7 power electronics, you switch. The reason to switch is to be  
8 energy efficient, otherwise you would waste energy and at the  
9 same time, if you are wasting energy, those components get  
10 hot, you have to remove the heat. This is difficult to do.

11 So, you see those and they are driven by the  
12 secondary windings of the CT current sensor and so this is a  
13 self-driven series oscillating converter just like in the  
14 Bobel patent. The capacitors are C 0 and C 2, and then we  
15 have some transformers T 1, T 2, and T 4 in series with the  
16 main path of the current and they have -- on the secondary  
17 side, they heat the filaments. And this is going to be more  
18 in detail in some other slides.

19 Q. And I'll point out that you have a laser pointer in front  
20 of to you to the right in case you --

21 A. This one?

22 Q. In case you want to use that at all to demonstrate what's  
23 being shown. The next part of claim 1 is having DC input  
24 signals. The next part of claim 1 is having DC input  
25 terminals producing a control signal and adapted to power at

1 least one gas discharge lamp having heatable filaments. Is  
2 that disclosed in JP '799 as well?

3 A. Yes.

4 Q. Could we --

5 A. I think the next slide will show that.

6 Q. Can you explain?

7 A. Yes. In purple we have the DC input terminals. The upper  
8 one is the positive one. The lower one is the negative one.  
9 We have the input rectifier, that's No. 2. Number 1 is a  
10 voltage source that basically represents the utility voltage  
11 input that powers the circuit. That's your normal 120 volts,  
12 for example. And capacitor C 1 just simply buffers the  
13 voltage, stabilizes the voltage. If you have about 120, which  
14 is the normal voltage on all utility lines, you would get  
15 about 170 volts on C 1, full bridge rectified.

16 Okay. And then we have a DC control signal that  
17 emanates -- I mean that comes from this DC input terminal. It  
18 goes -- there's a path occurring through our resistor R 8 and  
19 inductor L 2 and then it goes through the filament on the  
20 bottom filament of the lower tube, goes through R 11  
21 through -- up and through the top filament of the lower tube,  
22 and then it goes up to the center connection between the two  
23 tubes into the bottom filament of the upper tube and then to  
24 resistor R 10. Let's see. I think this is R 10. And goes  
25 through the upper filament of the top tube and then through R

1 4 and then it ends up at this thing that's called Q 5, which  
2 is a -- this is not a power transistor but is a small signal  
3 transistor and it basically turns on and thereby enables the  
4 ballast to operate.

5 So, we see here exactly what Bobel teaches and there  
6 is basically a small DC bias current going through the  
7 filaments of the lamp and if the filaments would be broken or  
8 if those filaments or the lamps will be removed, that path of  
9 the current would be cut, interrupted, and then transistor Q 5  
10 would turn off and the inverter would shut down.

11 Q. I'm going to go to the next slide. The next part of the  
12 claim is -- says the device comprising voltage source means  
13 providing a constant or variable magnitude DC voltage between  
14 the DC input terminals. I think you talked about this a  
15 little bit in your last answer --

16 A. Right. I basically mention all of that. I mean you have  
17 your typical AC source that's labeled 1 and 2 is a typical  
18 rectifier that makes DC voltage.

19 Q. The next claim limitation is output terminals connected to  
20 the filaments of the gas discharge lamp. Is that shown as  
21 well in this figure?

22 A. It's not highlighted. It's shown.

23 Q. Go to the next slide, please.

24 A. Now it's highlighted in -- what do you call it -- magenta?  
25 Guys can't have anything but red/green in colors. You can see

1 it on the -- the color of the text, whatever you would call  
2 that --

3 JUROR: Teal. I think it's called teal, but I'm not  
4 sure.

5 A. All right. So we can see that, yeah.

6 Q. What are the things that are -- the boxes that are pointed  
7 to next to the No. 4 there? Do you see a 4 and then you see a  
8 line going to a box? What is the box there?

9 A. Okay. The box is the lamp itself. It's the -- the  
10 discharge tube.

11 Q. The next part of the claim, and we're going to start  
12 talking about the control means part of the claim and I'm  
13 going to break that up into pieces so it's easier. Let's look  
14 at control means capable of receiving control signals from the  
15 DC input terminals and from the resonant converter. Do you  
16 have a slide that shows that?

17 A. Yes.

18 Q. Can you go to the next slide?

19 A. We have control means capable of receiving control signals  
20 from the DC terminals and that would be through the yellow  
21 path and we talked about that. That's basically the small --  
22 goes through the filaments and detects the presence and  
23 integrity of the filaments, presence of the tubes and whether  
24 the filaments are broken or not and then that red arrow is an  
25 intermediate node from the inverter and so it gets a control

1 signal from the resonant converter.

2 Q. I want to focus on that last piece a little bit. The from  
3 resonant converter part. Have you prepared another slide that  
4 shows why that red signal is from the resonant converter?

5 A. Yes. That is part of -- that is -- here is the resonant  
6 converter outlined again in red and you can see that this --  
7 the node between the capacitor C 0 and C 2. That node, is a  
8 node that is inside of the converter, inside of that resonant  
9 circuit, and so it has AC voltage on it.

10 Q. Is there any question in your mind as to whether this  
11 control signal is the control signal that's coming from the  
12 resonant converter?

13 A. No. It's obvious to me.

14 Q. I'm going to move to the next part of the claim which is  
15 operable to effectively initiate oscillations. What part of  
16 the circuit is initiating the oscillations?

17 A. The element that's called -- that's numbered No. 3 is  
18 effectively initiating the oscillations and it puts an initial  
19 start pulse on the base of the transistor Q 2, which is the  
20 lower transistor of that power inverter.

21 Q. Now, Professor, we're looking at one figure of several  
22 figures in this reference, correct?

23 A. Uh-huh.

24 Q. Did you review the entire reference when you were forming  
25 your opinions?



1 A. Yeah.

2 Q. Do you have an understanding of what that start up circuit  
3 is in this circuit based on the entire description of the --

4 A. Yes.

5 Q. Does this reference start oscillations using a DC control  
6 signal that goes through the filaments?

7 MR. SKEELS: Your Honor, he's getting into a  
8 corresponding structure now, and we're going to object on that  
9 basis because there's no basis in his report that he did any  
10 analysis whatsoever with regard to corresponding structure  
11 control means in this reference and shown here as just a  
12 simple black box labeled 3.

13 MR. PEARCE: I think he said in his report this was  
14 the corresponding structure. I think it is fully disclosed.  
15 If he thinks that analogy is not sufficient --

16 THE COURT: Did you say this in your written report?

17 THE WITNESS: I believe so, yeah.

18 THE COURT: Okay. Overruled.

19 A. It is a one shot device and it gives a -- applying the  
20 voltage to the inverter, it will give a pulse to the base of  
21 the transistor Q 2 and then the circuit will start  
22 oscillating. Basically what happens a current will start flow  
23 through Q 2 and that current will flow through the current  
24 transformer C T. Then once it starts flowing and the  
25 secondary winding of that CT, which is in this case the lower

1 one, will then take over supplying the current to keep the  
2 transistor Q 2 turned on as long as the current is in the  
3 appropriate direction, which is going down to ground. There  
4 is a little on the -- on the lower leg of this called the  
5 emitter of Q 2, there's a little arrow, very hard to see. But  
6 that's the direction of the current that can flow through Q 2  
7 and so once you give it initial start pulse, the transistor  
8 turns on, then that turns on the main current, and then as  
9 soon as that main current turns on, that current -- that  
10 current transformer will then provide the base current to  
11 continue to keep it on whenever it is appropriate for it to be  
12 on. Then for the next half cycle, it's appropriate that the  
13 upper transistor is on and so then the current will go  
14 backwards and then the upper transistor Q 1 will be turned  
15 off.

16 Q. Did the text of JP '799 say anything about how starter  
17 circuitry works or what functions it performs?

18 A. It doesn't go into great detail.

19 Q. Does it tell you what it does?

20 A. Yes.

21 Q. And from the description, in your expert opinion, were you  
22 satisfied you understood how this operated?

23 A. Yes.

24 Q. If we can move to the next part of the claim. That's to  
25 effectively stop oscillations of the converter. And we have

1 another slide down. There you go. Can you explain that,  
2 please, sir?

3 A. Uh-huh. So, we have a signal coming from the resonant  
4 converter and that signal also comes from the -- if the  
5 filament is broken or the lamp is defective, transistor Q 5  
6 will turn off and if that happens -- basically, as long as the  
7 transistor Q 5 is on, it pulls -- it's -- the upper leg. I  
8 mean, so -- so you have -- maybe I need to point there or --  
9 pointing --

10 Q. Is that working?

11 A. It's not bright enough.

12 MR. PEARCE: All right. Would it be appropriate for  
13 the witness to ten down? I can step down and point here on  
14 the screen, if you would like.

15 A. So, again, this is the -- this is so-called emitter of Q 5  
16 and, basically, this -- this transistor is essentially, it's a  
17 current control current source. What it means is with a  
18 little bit of current here you control a lot of current here  
19 and the gain is typically maybe a hundred. So, one miliamp  
20 here would control 100 miliamps here. It's probably 400  
21 miliamps. As long as this transistor is on, some current is  
22 flowing here. Then at this point would be low and then that  
23 transistor is turned off. But as soon as this turns off, this  
24 resistor R 6 pulls this base terminal up which makes current  
25 flow this way. It turns this transistor on which pulls this

1 point down and it basically continuously disables transistor Q  
2 2 from operating, so it basically shuts down the inverter.

3 Q. If we can go to the next part of the claim which is the  
4 direct current blocking means term. I won't repeat that. But  
5 could I explain how this slide demonstrates that in the 799  
6 patent.

7 A. Okay. We talked about this a little bit before and so we  
8 have this basic idea that you have a little bias current going  
9 through a filament to see if it's -- if it's there or if it's  
10 broken, and so -- and in this case where the red X is, we  
11 assume that filament is broken and so then the current can't  
12 go through that filament any more and -- but what -- and,  
13 again, maybe I should -- I should go back and point to the --

14 Q. You can step down.

15 A. Yeah. This secondary winding is heating the filament.  
16 And a winding of a transformer -- a transformer is a magnetic  
17 core with a wire wrapped around it and that wire is  
18 essentially a short circuit for DC. So, it is essentially a  
19 short circuit and it has probably lower resistance than the  
20 filament itself. So, the current could go through the  
21 secondary winding of this transformer and basically bypass the  
22 filament and so the filament could be broken but we wouldn't  
23 know that because the current bypasses it and the current is  
24 not interrupted, but that's what these DC blocking capacitors  
25 are doing. They will allow AC current to flow, but they will

1 self-resonant oscillating circuit we have here the current  
2 transformer that drives those transistors. And we have a --  
3 you know, we have the control means that initiates this thing  
4 here provides an initiating pulse to this transistor. This  
5 provides the shut off. It's -- it basically identical, if you  
6 really look at it and compare it, I would say it anticipates.

7 **MR. PEARCE:** May I approach the witness, Your Honor?

8 **BY MR. PEARCE:**

9 Q. Professor, I'm going to hand you something. Can you just  
10 let me know if these are the copies of the slides that you  
11 talked about earlier?

12 A. Yes.

13 Q. Does this summarize your opinions with respect to the 799  
14 reference?

15 A. Yes.

16 Q. Do you think it would be beneficial for the jury to have a  
17 copy of this?

18 A. Sure.

19 **MR. PEARCE:** Your Honor, I'd like to mark this as  
20 Defendant's Exhibit 346 and offer it into evidence.

21 **MR. SKEELS:** No objection, Your Honor.

22 **THE COURT:** It will be admitted.

23 **MR. PEARCE:** May I publish this to the jury?

24 **THE COURT:** Yes.

25 (Admitted in Evidence as Defendant's Exhibit 346.)

1 **BY MR. PEARCE:**

2 Q. Professor, let me switch -- Let's talk about a second  
3 reference. If you could turn in your binder to Defendant's  
4 Exhibit 129. I think it's in the front. Could you display  
5 Defendant's Exhibit 129. And if you can't find it there, just  
6 look at the screen.

7 A. It's the 997.

8 Q. And, again, this is not written in English, is it?

9 A. I got that, yeah.

10 Q. This reference is not in English, is it? This document?

11 A. No.

12 Q. Actually, though, if you turn -- if we go to the next page  
13 of it -- I think this is the last page of it. Tom, if you  
14 would. This is from the reference. Can you understand this  
15 even though the reference is -- as a whole is not in English?

16 A. Yes.

17 **MR. SKEELS:** Objection, Your Honor. We're now  
18 getting into a document that's not yet in evidence to be  
19 published to the jury.

20 **MR. PEARCE:** Okay. I'd like to offer Defendant's  
21 Exhibit 129 which we discussed earlier and also Defendant's  
22 Exhibit 130 which is the translation that I will ask him  
23 about.

24 **MR. SKEELS:** I have no objection to 129. I don't  
25 know that a foundation has been laid for 130.

1           **THE COURT:** What is 130?

2           **MR. PEARCE:** The translation of 129.

3           **THE COURT:** The Japanese -- this is Japanese --

4           **MR. PEARCE:** This is the English translation of 129.

5 I haven't asked him about it --

6           **THE COURT:** Okay.

7           **BY MR. PEARCE:**

8 Q. Professor, can you turn in your binder, if you can find  
9 it, to Defendant's Exhibit 130. If you can't find it, let me  
10 know, I'll walk up there and hand you a copy.

11 A. I see 133 right now.

12 Q. It's down in the bottom -- the sticker will be on the  
13 bottom right corner of the first page. This is --

14 A. Yes. I got it.

15 Q. You got it?

16 A. Yeah.

17 Q. Can you tell me what DTX 130 is directed at?

18 A. This is a -- DTX 130 is verification of translation. And  
19 the date is July 12th, 1986.

20 Q. And do you understand this to be a translation of the JP  
21 '997 reference?

22 A. Yes.

23           **MR. PEARCE:** Your Honor, at this time we would like  
24 to offer Defendant's Exhibit 130 into evidence.

25           **THE COURT:** Okay. It will being admitted.

1 A. And I might add I'll -- I went to the Japanese --

2 THE COURT: It's been admitted.

3 MR. PEARCE: It's been admitted. We can move on.

4 (Admitted in Evidence as Defendant's Exhibit 130.

5 BY MR. PEARCE:

6 Q. And just generally, what does JP '997 describe?

7 A. It describes an electronic ballast.

8 Q. And can you repeat, I think you mentioned, what's the date  
9 of publication for JP '997?

10 A. July 12, 1986.

11 Q. 1986. How does that compare to the '529 patent?

12 A. This is many years prior.

13 Q. Do you have an understanding of whether or not the patent  
14 office considered JP '997 in determining whether or not to  
15 grant '529 patent?

16 A. It has not. It's not on the front page of '529 patent.

17 Q. Have you similarly prepared some colored slide to show  
18 your opinions as to JP '997?

19 A. Yes, I have.

20 Q. Okay. Can we go to the first one of those, please? Slide  
21 12. Again, the first part of the explain energy converting  
22 devise, employing an oscillating resonant converter producing  
23 oscillations. Can you distribute in your opinion if JP '997  
24 has that?

25 A. Yes. Maybe --



1 Q. You can feel free to step down, if that will be useful.

2 A. So, just explaining that a little bit cause this is a  
3 little bit busy here. Let's -- Let me make sense of this.  
4 So, the main switching transistors again are here. It's the  
5 same type of bi-polar switching transistors than what we had  
6 before. And they have gate drive or base drive signals here  
7 and here and those two terminals are actually connected to  
8 here and those two terminals are connected to here. This  
9 looks pretty complicated. It drives these transistors like in  
10 the previous case it does a little bit more and what it does a  
11 little bit more is it has another transistor here and it can  
12 turn that transistor on upon certain -- a certain voltage  
13 level here. So, this is magnetically coupled. Here it senses  
14 the current. This is a current sense transformer, just like  
15 in the other case in the Bobel patent, but it has this  
16 threshold detection here with a zener diode and so if the  
17 current gets too high it will shut off. So, it has additional  
18 protection circuit here. But, basically, it does the same  
19 thing. Then it has here two filaments. It has inductors,  
20 resonant inductors, resonant capacitors. Here resonant  
21 capacitors, here resonant capacitor.

22 Q. Professor, I'm going to go to the next slide which talks  
23 about DC input signals on input terminals. Could you explain  
24 if it has this or not.

25 A. Here again we have and I put rectifier. This is the input

1 utility voltage. It gets rectified here. There is a few more  
2 filters in here to make this thing look a little nicer toward  
3 the utility. They have -- they inject less harmonics into the  
4 utility. This a big thing today, especially in Europe. It's  
5 going to come here, it's going to be more and more important.  
6 It supplies DC. This is plus, there is file news, and so then  
7 from this we have here current going through the filaments to  
8 detect if the filaments are there and going to circuitry to  
9 evaluate that signal.

10 Q. The next slide talks about the voltage source means. I  
11 think you already discussed --

12 A. Yes.

13 Q. Can we go to the next slide, please? Does this show  
14 output terminals connected to the filaments of the gas  
15 discharge?

16 A. Yes. Here is the -- 1 and 2 with two filaments each and  
17 so here -- here is the connection between the circuit and the  
18 fluorescent lamps.

19 Q. All right. The next slide talks a little bit about  
20 control means. Can you explain what's going on here? You may  
21 have discussed this a little bit earlier.

22 A. We have a signal from the DC source going through the  
23 filaments of the tubes and then we have here a signal coming  
24 from the inverter and going to a shut down circuit here. This  
25 is a circuit that is actually this is call a differential

1 transformer. Here we have two lights in parallel and this  
2 transformer will detect and this -- this sort of works like  
3 have you -- do you have in -- in bathrooms today they have  
4 those protection circuit, fault current interrupt tors. This  
5 is sort of the same thing. It checks for a current balance.  
6 It wants to see if there's current in one tube. It wants to  
7 see the same current in the other tube. These little dots  
8 here, the transform here dots so they make -- they create a  
9 magnetic field but if this thing decree as the same magnetic  
10 fields, it cancel. If they don't get a signal it cancels and  
11 then it shuts down.

12 Q. Professor, when you say it disrupts, do you have any  
13 opinion on the interest or how interesting this particular  
14 design was?

15 A. There is an interesting feature that the filaments, they  
16 are heated through this path here through these resonant  
17 capacitors. When -- when -- this thing is almost like a  
18 program start type of ballast, not a rapid start ballast.  
19 This is nicer to the tubes. I mean, so -- basically, what  
20 happens is initially you have oscillations and you have AC  
21 current going through this capacitor and through this  
22 capacitor, but they're in series letter with this filament so  
23 this current flows through the filaments and heats them up and  
24 once they are hot enough, then the lamp will strike and it  
25 will turn on.

1 Q. Professor, I don't want to interrupt you, but I do want to  
2 kind of move things along a little bit.

3 A. Sure.

4 Q. Can we go to the next slide and can you tell us whether or  
5 not this teaches the functions of the initiating oscillations?

6 A. Yes. We have basically initiating a starting pulse and  
7 this comes from here into this -- again, it put as pulse into  
8 the lower transistor, turns -- turns it on, and then you  
9 want -- you don't want this or the signal shouldn't be there  
10 for any length of time. It just should be a pulse, so it gets  
11 turned on and then the self driven current transformer takes  
12 over the operation of the circuit and turns it on and off at  
13 the appropriate time, maybe 20, 30 -- more often time as  
14 second.

15 Q. If we can go to -- were you finished?

16 A. Yeah.

17 Q. If we can go to the next slide, will you describe if it  
18 shows effectively stopping the oscillations?

19 A. This is what we discussed before. This will basically  
20 come from here and when there's any problem -- for example, if  
21 there's a filament broken, it will detect that since -- since  
22 there is no current in this path and there's no current here  
23 and so then there will be current imbalance, you get this  
24 signal, and then I pull this -- the base down and shut down  
25 the circuit.

1 Q. And last element of claim 1, direct current blocking  
2 means. Can I describe from JP '997 shows this also?

3 A. Yeah. You would have to redraw this a little bit to show  
4 it, but so basically direct current cannot go past here.  
5 These capacitors, they act as DC blocking capacitors.

6 Q. Are the two capacitors you identified, are both of the  
7 lamps of this ballast shown in the figure connected to a  
8 capacitor you've identified as part of the direct current  
9 blocks means?

10 A. Yes.

11 Q. If either of the filaments of either of those lamps is  
12 broken, will those capacitors stop the flow of the DC signal?

13 A. Yes.

14 Q. We move to claim 2 is the next slide. And can you  
15 describe if this figure shows claim 2 of the 997 patent?

16 A. Yes. So we have here -- here capacitor for this path. We  
17 have two path in parallel. We have path and this inductor and  
18 this path and the other path.

19 Q. We go to claim 5 and I would actually like you, if you  
20 could, to go back to your seat. There was some discussion  
21 earlier from other witnesses, you may not have heard it, about  
22 schematics. Does a schematic diagram represent the precise  
23 physical locations of components in the circuit necessarily?

24 A. Not necessarily, no.

25 Q. If you sit down at the microphone so they can hear you.

1 Can you take a single schematic and perhaps at times represent  
2 it more than one way in a drawing?

3 A. Yes.

4 Q. Is there a way of drawing the schematic somewhat  
5 differently to help illustrate your opinions?

6 A. Yes.

7 Q. Can you just approach the white board and show that.

8 **MR. SKEELS:** Your Honor, we would object to this.  
9 This is -- there's no reference in his report to, quote,  
10 having to redraw, close quote, this circuit in order to  
11 demonstrate how it allegedly anticipates.

12 **THE COURT:** Why is this any different than objecting  
13 to Dr. Roberts's drawing?

14 **MR. PEARCE:** Because this is a new opinion. I may  
15 have phrased the question inartfully. I'm asking him to draw  
16 the same I'll on and just as he draw it here he can draw on it  
17 the white board.

18 **THE COURT:** Can you draw the same -- it's got to be  
19 the same diagram as what's in your report.

20 **MR. SKEELS:** There isn't any other diagram in his  
21 report, Your Honor.

22 **MR. PEARCE:** I think I can actually do this without.  
23 I'll withdraw the question and I'll ask a different question.

24 **BY MR. PEARCE:**

25 Q. Professor, in your opinion does the figure of the 997

1 reference show direct current blocking means with regard to  
2 claim 5?

3 A. Yes.

4 MR. SKEELS: Objection, Your Honor, there's not even  
5 a reference in his report even if it's a speaking answer as to  
6 a drawing answer, there's still no reference in his report as  
7 to the fact that -- to demonstrate or show how this teaches or  
8 anticipates claim 1 that would be have to be redrawn or --

9 THE COURT: That's in the report.

10 MR. PEARCE: That's just incorrect.

11 THE COURT: Is it in the report?

12 MR. PEARCE: It is absolutely in his report.

13 THE COURT: Is that in your report? Professor?

14 THE WITNESS: I just wanted -- yes. I just wanted  
15 to -- I thought about that in preparation for testimony and  
16 how to more effectively demonstrate it. I -- you know, redrew  
17 it. But it essentially leads all the connections the same the  
18 way they are.

19 THE COURT: The question though is did you talk about  
20 this in your report? That's the question.

21 THE WITNESS: Redrawing, no.

22 THE COURT: Not the -- whatever the --

23 MR. PEARCE: Your Honor, I want to -- it's clearly in  
24 his report that he identifies these capacitors as capable of  
25 meeting claim 5 and that's all I'm asking is that his opinion.

1 THE COURT: Okay. Is that your opinion?

2 THE WITNESS: Yes.

3 BY MR. PEARCE:

4 Q. Is that based on your experience in twenty-five plus years  
5 as an engineer and your ability to read schematics?

6 A. Yes.

7 Q. Okay. And --

8 MR. PEARCE: May I approach?

9 THE COURT: Yes.

10 BY MR. PEARCE:

11 Q. Professor, if you could look at what I'm going to hand you  
12 and let me know if these are the same slides you've just  
13 talked about?

14 A. Oh, yes.

15 Q. Do these summarize your opinions as to the JP '997  
16 reference?

17 A. Yes.

18 Q. Do I think they would be of assistance to the jury in  
19 understanding your opinions?

20 A. Yes.

21 MR. PEARCE: Okay. Your Honor, I would like to at  
22 this time mark this as Defendant's Exhibit 347 and move to  
23 admit it in evidence.

24 MR. SKEELS: Van --

25 MR. PEARCE: Yeah.



1           **MR. SKEELS:** No objection, Your Honor.

2           **THE COURT:** 347?

3           **MR. PEARCE:** 347.

4           **THE COURT:** Okay. It's admitted.

5           **MR. PEARCE:** May I publish to it the jury?

6           **THE COURT:** Yes.

7           (Admitted in Evidence as Defendant's Exhibit 347.

8           **BY MR. PEARCE:**

9           Q. Professor, based on what you just talked about, do you  
10          have an opinion whether JP '997 versus the claims of the '529  
11          patent?

12          A. Yes, it does.

13          Q. Are you certain are you of that opinion?

14          A. Very certain.

15          Q. Professor, unfortunate unfortunately our time here today  
16          is short and I want to keep things moving. I want to ask, did  
17          you look at other references in your report and compare them  
18          to the '529 patent?

19          A. Yes, I did.

20          Q. So --

21               **MR. SKEELS:** Objection, Your Honor. Unless he's  
22          intending to go into questions about -- go through an analysis  
23          of they actually anticipate, I don't see a purpose for the  
24          question.

25               **THE COURT:** Overruled.

1 Ballast Technology. Do you recognize those?

2 A. Yeah. It's not the ones that I discussed today.

3 Q. All right. So, today you discussed the 799 and the 997.

4 Is that right?

5 A. Yes.

6 Q. You did not discuss the 890. Is that right?

7 A. Right.

8 Q. And you did not discuss the 494?

9 A. Right.

10 Q. And you did not discuss the 794?

11 A. Correct.

12 Q. And you did not discuss U.S. patent number 013?

13 A. No.

14 Q. And you did not discuss U.S. patent No. 460?

15 A. Correct.

16 Q. All right. So, all these -- all these applications  
17 that -- or all these references that Universal was relying on  
18 as recently as March of 2009, you haven't discussed any of  
19 these with the jury today. Is that right?

20 A. Right. And I wasn't engaged at that time.

21 Q. Do you have an understanding these are the publications  
22 that Mr. Patterson initially identified at one point in time?

23 A. I'm not absolutely sure about that.

24 Q. All right.

25 A. I was there for the testimony yesterday.

1 Q. Let me ask you about the references that you talked about.  
2 Let me ask I first about the JP '799. Did I understand you  
3 to -- I believe this is already in evidence as Defendant's  
4 Exhibit 134. Did I understand you to refer to this Japanese  
5 patent application as cover a lighting ballast?

6 A. Yes.

7 Q. Not a lighting ballast and a lamp, right? Just a lighting  
8 ballast.

9 A. Yeah.

10 Q. All right. And in that regard, I notice that for this  
11 limitation I say that this limitation is met, output terminals  
12 connected to the terminals of the gas discharge lamps and  
13 you've identified as blue, right?

14 A. Yes.

15 Q. You haven't identified any lamps, have you?

16 A. The lamps are 4 and 4 --

17 Q. Yes. But you didn't highlight them in any color to  
18 indicate that's part of your reasoning why that limitation was  
19 satisfied?

20 A. Right. I mean it's obvious 4 and 4, the elements are the  
21 lamps and counsel asked me about it.

22 Q. All right. Very well.

23 A. I think he asked me about what is 4.

24 Q. You are aware that you used the words connect to and for  
25 connection to in your report interchangeably. Do you recall

1 that?

2 A. Yes.

3 Q. Now, let me ask you about -- still talking about the JP  
4 '799 reference. I'm going to use a slide that -- by the way,  
5 who created these slides?

6 A. They were created in my office. They were drafts provided  
7 by Orrick lawyers and we spent about a day and-a-half going  
8 over this and basically I was in charge in putting -- putting  
9 all the highlights in. I was basically looking, projecting  
10 and --

11 Q. All right. Very well. So, let me ask you, because of  
12 time constraints, as you mentioned, I'm going to go ahead and  
13 jump to the limitation of the control means. All right?

14 A. Yes.

15 Q. And you have an understanding that the control means is  
16 what's called a means-plus-function limitation?

17 A. Yes.

18 Q. That's sort of a tricky legal concept, isn't it?

19 A. Yes.

20 Q. What you have to do first is identify the functions,  
21 right?

22 A. Quite.

23 Q. Then you have to go to the specification, just the limited  
24 portion of the specification the Court has identified and see  
25 where the corresponding structure is, right?

1 A. Yes.

2 Q. Then to determine infringement or invalidity, you have to  
3 make an analysis of whether or not the structure contained in  
4 this reference that I'm pointing to, the JP '799 is the same  
5 as or equivalent to the structure taught by Bobel's '529  
6 patent, right?

7 A. Right.

8 Q. This is kind of now colored in blue so I can't tell  
9 completely if anything is covered up. Are there any  
10 components inside that box that I can't see because it's  
11 colored up in blue?

12 A. No, they're not shown.

13 Q. Are there any diacs inside of that box shown?

14 A. No. Not shown.

15 Q. Are their diodes inside of that there?

16 A. Not shown.

17 Q. Any resistors in there?

18 A. It's not shown.

19 Q. Are there any capacitors inside of that box?

20 A. It doesn't show.

21 Q. Is there an integrated circuit in that box?

22 A. Probably not. You know, looking at the data of the  
23 patent, no. It's not reasonable to assume that.

24 Q. And it's fair to say there's not a microcontroller inside  
25 that box?

1 Q. All right. Let me ask you about the JP '997, what the  
2 parties have referred to as JP '997. You talked about that  
3 already, right?

4 A. Yes.

5 Q. And I believe you also indicated this is a patent directed  
6 towards lighting ballasts. Is that right?

7 A. Yes.

8 Q. Not a lighting ballast and a lamp?

9 A. It says transistor inverter designed to --

10 Q. Do you understand that to be referring to a lighting  
11 ballast?

12 A. Yes.

13 Q. I don't have the slide I was looking for but I'll go ahead  
14 and use this one. I'm not going to ask you about the output  
15 terminals. Now, Dr. Giesslemann, you discussed 997 and in the  
16 interest of time I'm going to jump to the direct current  
17 blocking means limitation.

18 A. Yes.

19 Q. I'm going to blow that up a little bit. Now, I believe  
20 you indicated that this reference teaches the DC blocking  
21 means requirement. Is that right?

22 A. Yes.

23 Q. All right. And you understand that pursuant to the  
24 Court's rulings the DC blocking means must account for each  
25 set of output terminals?

1 A. Yes.

2 Q. All right. Now, I believe you've indicated in brown a  
3 capacitor. Let's call it C 30 up here by the red X. Okay?

4 A. Okay.

5 Q. And --

6 A. It's hard to see but -- yeah.

7 Q. And it is connected to how many output terminals?

8 A. It is effectively connected to two.

9 Q. All right. If you don't mind, I'm going to take this blue  
10 pen and have I accurately indicated the two output terms that  
11 you're referring to?

12 A. I would -- that's why I wanted to redraw this. It  
13 basically is connected also to -- to the -- to the other  
14 terminals through these inductors. It's hard to see.

15 Q. But you said something about having to redraw. That's  
16 what you're referring to now, right?

17 A. Yes.

18 Q. By you didn't do that in your report?

19 A. No.

20 Q. All right. So, certainly, with respect to your report and  
21 what you disclosed in your report, you didn't explain how this  
22 output terminal or this output terminal was accounted for, did  
23 you?

24 A. Basically, there's a path through I think choke 14 and --  
25 where the capacitor basically connected to the other side of

1 the terminals.

2 Q. Let me ask you about this capacitor down here.

3 A. Yeah.

4 Q. We'll call it I think C 26. And in the same way it's  
5 connected to this output terminal and this output terminal. I  
6 call those the lower left and lower right of lamp F 2. Do you  
7 see those dots?

8 A. Yes.

9 Q. It's your opinion that capacitor is coupled to those  
10 output terminals?

11 A. Yes.

12 Q. But nothing in your drawings or your report show that the  
13 capacitor accounts for these sets of output terminals, does  
14 it?

15 A. No.

16 Q. Now, let me ask you about one more thing.

17 A. I mean does -- those two lower --

18 Q. Dr. Giesslemann, I'm sorry, I don't have a question  
19 pending at the moment. We're short on time but your attorney  
20 can you more questions here in a moment. Let me ask you about  
21 claim 5 that includes DC blocking means docketed across at  
22 least one set of output terminals. Is it your position that  
23 this teaches that, that this JP '997 teaches at least one DC  
24 capacitor or DC blocking means that's connected across at  
25 least one filament of one lamp?



**Trial Transcript, Volume D, Dated June 16, 2011**

1 prejudicial and cause confusion under Rule 403.

2 MR. ROUTH: Rule 403 deals with unfair prejudice,  
3 not just prejudice. I don't know that this is all the  
4 prejudicial, but it is just basically what happened.

5 THE COURT: Okay. I will overrule the 403  
6 objection, but I will listen to the testimony, and if I think  
7 it is becoming misleading or unfairly prejudicial, I will stop  
8 the questioning.

9 MR. ROUTH: And Your Honor, I don't mean to be cute,  
10 but if you think something is going on, give me a look. I  
11 don't have any intent to go where you don't want me to go.

12 THE COURT: Okay. Let's get him up here, wherever  
13 he is.

14 MR. ROUTH: Mr. Hesterman.

15 MR. SUDER: Judge, time-wise, I think we have about  
16 an hour? They have an hour and 20 and we have about an hour.

17 THE COURT: I can tell you. Let me just put it this  
18 way. Before Giesselmann the Defendant had used 12 and 35, and  
19 with Giesselmann he used an hour and 16 minutes. And before  
20 Giesselmann you had used 13 and a half hours, and you used 27  
21 minutes. So it is hard for me to accurately calculate time  
22 because it is not 60s and not 100, but --

23 (Whereupon, the jury entered the courtroom.)

24 THE COURT: Go ahead and call him as your next  
25 witness.

1 MR. ROUTH: Mr. Hesterman will be our next witness,  
2 Your Honor.

3 THE COURT: Please come up here, sir. Would you  
4 raise your right hand and be sworn?

5 (Whereupon, the oath was administered by the Court.)

6 BRYCE HESTERMAN,

7 Testified on direct examination by Mr. Routh as follows:

8 Q. Mr. Hesterman, welcome to Wichita Falls. The jury has  
9 heard your name all week so I wanted you to have an  
10 opportunity to speak to them, but our time is short. Could  
11 you briefly tell the jury who you are?

12 A. Yeah. I am Bryce Hesterman. I was a design engineer for  
13 MagneTek from 1993 through 2000, and worked in advanced  
14 development, basically figuring out where the company should  
15 be heading two to five years down the road.

16 Q. Mr. Hesterman, I called you approximately a month ago,  
17 did I not, to ask you about assisting with this trial?

18 A. Yes.

19 Q. And when I called you, I asked you whether you might have  
20 possibly retained any documents from the days you worked at  
21 MagneTek?

22 A. Yes.

23 Q. And just so I am clear--I wasn't listening as carefully  
24 as I should have--you left MagneTek in about 2000. Correct?

25 A. Yes.

1 Q. And what you told me is that you found a hard drive on a  
2 computer that you had at your home that had some old MagneTek  
3 documents. Is that correct?

4 A. I had a CD ROM that I transferred to a hard drive for  
5 searchability.

6 Q. Okay. And you provided me with a set of documents?

7 A. I did.

8 Q. And I provided them to Plaintiff's counsel, and we have  
9 now seen at least some of those documents, sir.

10 A. Yes.

11 Q. Was that the first you heard about this case?

12 A. No.

13 Q. When did you first hear about this case?

14 A. When I was sent an email by John Suder.

15 Q. You were sent an email by Mr. Suder, Plaintiff's counsel.  
16 When was that, sir?

17 A. In January of this year.

18 Q. So about five months ago Plaintiff's counsel contacted  
19 you?

20 A. Yes.

21 Q. And what was the nature of that contact, sir?

22 A. They asked me to review some patents.

23 MR. SUDER: Excuse me, Your Honor. This goes into  
24 the issue we just talked about.

25 Q. (BY MR. ROUTH) Let me ask my question and have you

1 answer precisely. What was the nature -- what did he contact  
2 you and ask you to do, without getting into what you did?

3 A. Just to review some documents.

4 THE COURT: Hold on. I thought we were going to ask  
5 about the documents that he turned over to you.

6 MR. ROUTH: Yes.

7 THE COURT: Now why are you going right into this?  
8 I don't understand. Can you go to what you told me you were  
9 going to ask him?

10 Q. (BY MR. ROUTH) Two things. One, did Mr. Suder ask you  
11 for any documents when he contacted you in January?

12 A. No.

13 MR. SUDER: Your Honor --

14 THE COURT: He said no, so ask your next question.

15 Q. (BY MR. ROUTH) Did you and Mr. Suder have further  
16 discussions?

17 A. Our discussions were limited to the patents.

18 Q. So you talked about --

19 THE COURT: Okay. So what is your next question?

20 Q. (BY MR. ROUTH) I would like my next question to be  
21 whether Mr. Suder entered into an arrangement with you.

22 MR. SUDER: Your Honor, this is exactly what he said  
23 he wouldn't do.

24 MR. ROUTH: No, it is not.

25 THE COURT: Here is what I think we should go to,

1 first. Okay. I thought you were going to ask him if he  
2 turned over documents to you that you had not seen before.

3 MR. ROUTH: He has already told me that, and that  
4 those were produced to Mr. Suder last month, Your Honor.

5 THE COURT: So are you done with that subject?

6 MR. ROUTH: With the documents I am done.

7 THE COURT: Okay. And this is the last subject that  
8 you have with him.

9 MR. ROUTH: No. I have got to ask him questions  
10 about those documents.

11 THE COURT: Let's do that.

12 MR. ROUTH: We will move to that, then.

13 The first thing, may I approach the witness, Your Honor?

14 THE COURT: Yes.

15 Q. (BY MR. ROUTH) Mr. Hesterman, I am giving you a document  
16 that has been marked as Defendant's Exhibit No. 327. Can you  
17 tell us what this is?

18 A. This is an excerpt from a database that I helped develop  
19 of all of the patents relating to the field of electronic  
20 ballasts of which there were 3,548.

21 Q. So was this a database you maintained while at MagneTek,  
22 sir?

23 A. Yes.

24 Q. And you had a database of over 3,500 patents?

25 A. Yes.

1 Q. Why did you maintain that database?

2 A. So we could avoid infringing on other people's patents  
3 and also to know what prior art existed.

4 Q. You said this document, Defendant's Exhibit No. 327, was  
5 an excerpt. What is it, coming out of that much larger  
6 database?

7 A. Okay. So I had key words in there, and one of the  
8 subjects was shutdown patents, end of lamp life patents, and  
9 that is what this was, one of those.

10 Q. Okay. How many shutdown circuit patents were you keeping  
11 track of in the 1990s?

12 A. Ninety-nine.

13 Q. Ninety-nine different shutdown patents?

14 A. Yes.

15 Q. And you said Defendant's Exhibit No. 327 is one of them.  
16 Which one is it?

17 A. It is what we are referring to as the '529 Patent.

18 MR. ROUTH: I would like to move the admission of  
19 Defendant's Exhibit No. 327. It is the one I showed you.

20 MR. SUDER: No objection, Your Honor.

21 THE COURT: It will be admitted, No. 327.

22 Q. (BY MR. ROUTH) Mr. Hesterman, does Defendant's Exhibit  
23 No. 327 evidence that during the 1990s the Bobel patent was  
24 one of the 99 shutdown patents you kept your eye on?

25 A. Yes.

1 Q. And what would you do with respect to these patents that  
2 you kept in your patent database?

3 A. There were three purposes. The first purpose was to make  
4 sure that we did not infringe, the second purpose was to help  
5 us understand if one patent might potentially invalidate  
6 another patent, and a third purpose was so that when I was  
7 filing my own shutdown patents I would understand the state of  
8 the art.

9 Q. Was there a policy at MagneTek while you worked there  
10 about how to treat intellectual property or patents rights of  
11 others?

12 A. Yes. We had a stated policy that -- first, that whenever  
13 we came up with a new circuit, we had to have a review and to  
14 see, with the body of knowledge we had, if it could  
15 potentially infringe on any known patent; and second, if  
16 something looked like it could infringe on a patent, then  
17 before we could go further with that we would request an  
18 opinion from a law firm and they would give us advice as to  
19 how to proceed.

20 Q. Do you know from your records whether you ever requested  
21 a legal opinion in the 1990s regarding the '529 Patent?

22 A. I believe that we did not request an opinion on this  
23 because our intent was to never infringe this patent. We  
24 believed that we could do things other ways.

25 Q. I am going to put up on the screen a document already in



1 MR. ROUTH: This was the hearsay that was cut off  
2 before. I didn't ask before because it as hearsay, and I  
3 don't think it should come in as hearsay now.

4 THE WITNESS: That is all I can say.

5 Q. (BY MR. SUDER) All I am asking, Mr. Hesterman, and I  
6 will move on, is that you left a bunch of stuff besides that  
7 one entry in your notebook with the folks for Universal.  
8 Right?

9 A. A few pages.

10 Q. And whatever else you had--notes?

11 A. Oh, yeah, sure. I probably left behind at least five or  
12 six lab notebooks similar to what was --

13 Q. And the lab notebooks from '99, for example, when you  
14 were discussing alternatives to Mr. Bobel's patent. You would  
15 have had notebooks about the alternative in 1999 during the  
16 Valdarno report. You had had notebooks from this time,  
17 wouldn't you, sir?

18 A. I don't believe that there is information, if you are  
19 insinuating that we left something out.

20 Q. I am not insinuating anything, and I apologize if I am.  
21 I am just trying to help the jury understand how much  
22 information --

23 THE COURT: Just ask him another question.

24 Q. (BY MR. SUDER) How much information do you think you  
25 left behind?

1 A. Related to Bobel?

2 Q. Yes.

3 A. Probably just what has been shown.

4 Q. Okay.

5 A. Because I did a search of my hard drive and they did the  
6 search of the lab notebooks.

7 Q. Okay. Now, sir, I do have one last question for you. In  
8 1997, according to your lab notebook, you were working on an  
9 alternative so they wouldn't violate Bobel's patent?

10 A. Correct.

11 Q. And I take it that design never made it into a product?

12 A. Yes. A lot of my work was -- You might think of it like  
13 concept cars that, you know, the automakers make that never  
14 make it to the customers, but it is developing technology,  
15 pieces of which eventually do make it out.

16 Q. Yes. But the stuff in '97 never made it into a product.

17 A. I can't say that for sure because I don't know what all  
18 their products are.

19 Q. The reason I say that, sir, is in '99 you were working on  
20 another way to try to avoid Mr. Bobel's patent, and I guess if  
21 you already figured it out you wouldn't need another way,  
22 would you?

23 A. That is not correct. Think of it this way. There are 99  
24 patents and patent applications on ways of doing things -- I  
25 say 98, because he is the 99th. So there are many different

1 ways of doing it for many different applications and purposes.

2 Q. Sure, and I am asking, do you know if this way of  
3 shifting the inverter frequency instead of shutting down, did  
4 that make it into a product?

5 A. I believe so, yes. I have been told it did.

6 Q. Now, you don't know firsthand, do you? All you know is  
7 what they told you.

8 A. I have not purchased or observed anything produced since  
9 that time. I have had discussions with the engineers outside  
10 of the context --

11 Q. Excuse me. It is very important that you do not tell me  
12 anything that they may have told you. I just want to know  
13 what you know firsthand. Since you left in '99, you have not  
14 purchased any ULT product to see how it operates.

15 A. No. I have been sent ULT circuits via email.

16 Q. Okay. Did you study them?

17 A. I did.

18 Q. Okay. Did you compare them to the '529 Patent?

19 A. I compared them to -- I believe that I did, because I had  
20 my patent database with me and I explained what knowledge I  
21 had with respect to patents. But the '529 was not an issue.

22 Q. Okay. Now, sir, Mr. Hesterman, it is very important.  
23 Anything that you have relative to the '529 that you still  
24 have, you have turned over to Mr. Routh?

25 A. That is correct.

1 Robertson for his low rate and GE for his high rate. Correct?

2 A. That is what he did.

3 Q. Did he testify to any of the information Mr. Suder said  
4 maybe you should have gotten?

5 A. None.

6 Q. Do you have any understanding whether Suder went and took  
7 a deposition of GE or Robertson to try to get that information  
8 from Mr. Gallagher?

9 A. If he did I haven't seen it, and Mr. Gallagher didn't  
10 make any reference to it.

11 MR. ROUTH: Nothing further, Your Honor.

12 MR. SUDER: One question, Your Honor.

13 RE CROSS EXAMINATION

14 By Mr. Suder:

15 Q. We had the benefit of Mr. Bobel explaining exactly what  
16 happened with Robertson, didn't we?

17 A. You did. I don't know that I saw that reflected in  
18 Mr. Gallagher's report, though.

19 Q. Thank you.

20 MR. SUDER: No further questions.

21 THE COURT: And I tried to get out you had 28  
22 minutes left, but okay.

23 MR. ROUTH: I have no further questions.

24 THE COURT: You can step down.

25 MR. ROUTH: Your Honor, I have a very short excerpt

1 from a deposition I would like to read, and then I believe we  
2 will have no further witnesses. We reserve the rest of our  
3 time for any rebuttal case to put on.

4 May I present the deposition?

5 THE COURT: Yes.

6 MR. ROUTH: Ladies and gentlemen of the jury, during  
7 the course of the case we were able to take depositions --

8 THE COURT: Just tell us who is the name.

9 MR. ROUTH: The name is LBC, the Plaintiff in the  
10 case, and we were able to take what is called a Rule 30(b)(6)  
11 deposition so --

12 THE COURT: Who is the name?

13 MR. ROUTH: The name was Clayton Haynes.

14 THE COURT: Clayton Haynes is the corporate  
15 representative for LBC that testified to certain matters  
16 involving LBC's corporation. So please go ahead.

17 MR. SKEELS: Your Honor, we did have cross  
18 designations on Mr. Haynes.

19 THE COURT: Okay.

20 MR. SKEELS: And presumably they will be made. As a  
21 matter of optional completeness, it may make sense to read  
22 them consecutively to his.

23 THE COURT: No, you are going to read them on cross.

24 MR. ROUTH: So I took the deposition of Mr. Haynes.  
25 I asked these questions and got these answers.

1 Question --

2 MR. SKEELS: Your Honor, if he is going to read, may  
3 I get a page and line number to follow along whether to  
4 determine if an optional completeness issue might be  
5 appropriate.

6 MR. ROUTH: Page 32, line 8, through line 18.

7 Question: "Is the primary function of all 50 to 60  
8 operating subsidiaries under the umbrella, research  
9 corporation umbrella, the primary function of each of those to  
10 license and enforce patents?"

11 Answer: "The -- yeah -- operating subsidiaries, yeah.  
12 Primary function is to license enforcement protection of I.P.  
13 rights that it may own or control."

14 "Do any of the Acacia operating subsidiaries manufacture  
15 anything?"

16 Answer: "No."

17 This is the second and last. It is page 41, line 10 to  
18 line 23, and again I was questioning and I was getting answers  
19 from Mr. Haynes.

20 Question: "Does LBC actually employ anybody?"

21 Answer: "LBC DOES not have any employees."

22 Question: "Does LBC manufacture anything?"

23 Answer: "No."

24 Question: "Does LBC provide any services?"

25 Answer: "No."

1 Question: "Why was LBC organized under the laws of the  
2 state of Texas?"

3 Answer: "I was not involved in that decision, so I don't  
4 have any knowledge as to what the reasoning was."

5 Question: "Does LBC maintain any physical facility in  
6 Texas?"

7 Answer: "Not to my knowledge."

8 Your Honor that completes the reading of our deposition  
9 excerpts.

10 THE COURT: Okay. Do you have any --

11 MR. SKEELS: We don't have anything.

12 THE COURT: Okay.

13 MR. ROUTH: Your Honor, we rest our case.

14 THE COURT: Okay. Very good.

15 MR. SUDER: Your Honor, We have some slight  
16 rebuttal, obviously because of the time we have. We would  
17 call Doctor Regan Zane in rebuttal to Doctor Giesselmann, and  
18 may we get an update on the time?

19 THE COURT: You have 28 minutes.

20 MR. SUDER: Your Honor, after Mr. Zane, time  
21 permitting, which we anticipate having, we will put Doctor  
22 Roberts on briefly.

23 (Whereupon, the oath was administered by the Court.)

24 THE COURT: And would you just state your name for  
25 the jury?

1 THE WITNESS: My name is Regan Zane.

2 THE COURT: Okay. I am just going to ask you to  
3 speak into that microphone good and loud. Sometimes it shorts  
4 out, and it is important that we type up everything that you  
5 have to say. So if you say it loud every time, we will get it  
6 whether it shorts or not.

7 THE WITNESS: Very good.

8 REGAN ZANE,

9 Testified on direct examination by Mr. Skeels as follows:

10 Q. Doctor Zane, you state your name already for the record.  
11 What do you do for a living?

12 A. I am a professor at the University of Colorado.

13 Q. And could you identify for the jury the degrees that you  
14 have and the years in which you got them?

15 A. I received my Bachelor's degree, my Master's degree, and  
16 my Ph.D. all in electronic engineering. I received the Ph.D.  
17 in 1999.

18 Q. All right. From the University of Colorado.

19 Could you tell the jury briefly about some of your  
20 background and experience related to electrical engineering or  
21 power electronics or electronic lighting ballasts?

22 A. Yes. I recognize we are short on time, so I will try to  
23 be brief.

24 As I just mentioned, I received my Ph.D. in 1999. I then  
25 went to work for GE. I worked at their global research center



1 in New York. I worked there for two years. My primary role  
2 was to serve as an expert to GE Lighting. I worked on  
3 electronic ballast design --

4 Q. Doctor Zane we are in a hurry, but for the benefit of the  
5 court reporter we will try to keep the questions short but try  
6 to not speak too fast.

7 THE COURT: Or you can lead him through his  
8 qualifications if you know of what you want to pertinently  
9 establish.

10 MR. SKEELS: Thank you, Your Honor.

11 THE WITNESS: At GE I worked on electronic ballast  
12 design and integrated circuit controllers for electronic  
13 ballasts. In 2001 I was invited back to the University of  
14 Colorado as a faculty member, as a professor. And I have  
15 worked there for the last ten years where I am currently an  
16 associate professor.

17 I lead a research program in power electronics, and a  
18 significant portion of that is in electronic ballast design  
19 and energy efficient lighting systems. In that area, I am an  
20 author on multiple patents, and I have advised many students  
21 associated with that work. I have numerous papers, both  
22 conference papers and journal papers.

23 I have received many awards associated with this work,  
24 including specifically in electronic ballast design. I have  
25 received three best journal paper awards from the IEEE. I

1 have received international awards based on my research and my  
2 teaching. One is from the IEEE, the Power Electronic Society.  
3 I received the Richard M. Bass Young Faculty Achievement Award  
4 associated with my achievements in this area, and I also  
5 received the National Science Foundation Early Faculty Career  
6 Award. This is a four-year grant based upon my prior  
7 experience and the promise of my future research. I currently  
8 continue doing work in this area.

9 Q. And does the focus of your research continue to be on the  
10 analysis and design of electronic ballasts?

11 A. It is. And that is evidenced by the Ph.D. thesis. I  
12 have three recently graduate, including two specifically in  
13 electronic ballast design and one in a related area. I  
14 continue to work continually in electronic ballast design.

15 Q. And you have at least four patents issued naming you as  
16 an inventor. Is that right?

17 A. I have at least four patents and multiple patents  
18 pending, over 80 publications in the area.

19 Q. And many of those relate to electronic lighting ballasts?

20 A. Correct.

21 Q. Doctor Zane, I know you recognize your colleague in the  
22 field of academia, Doctor Giesselmann, as having some  
23 expertise in -- lots of expertise in power electronics, but do  
24 you have some criticisms of his qualifications as it relates  
25 to his testimony in this case?

1 A. I didn't specifically attack Doctor Giesselmann's  
2 personal experience, but in his testimony and in his stated  
3 list of an expert in the area he said that an expert should  
4 have experience in the field of lighting, and I argue that you  
5 really need experience specifically in electronic ballast  
6 design. If you only have experience in lighting, there are  
7 many areas associated with that, including especially physics,  
8 including analysis of discharge lamps. This is a complex  
9 physical phenomena that many physicists study, all of whom  
10 would have limited, if any knowledge, of an electronic drive  
11 circuit to drive such a lamp. This is a physics problem.

12 Q. You are aware that Doctor Roberts has both a physics  
13 background and an electrical engineering and power electronics  
14 background?

15 A. Correct.

16 Q. And he has dealt with both lamps and lighting ballasts?

17 A. Correct.

18 Q. But Doctor Giesselmann, as far as you know, has not been  
19 active with any sort of focus or specialty relating to  
20 electronic lighting ballasts?

21 A. As he stated, yes.

22 Q. Now, as far as this case is concerned, Doctor Zane do you  
23 consider yourself one of skill in the art?

24 A. Yes, I do.

25 Q. And you were retained by Lighting Ballast Control in this

1 case to offer opinions relating to the Defendant's defense of  
2 invalidity. Is that right?

3 A. Yes. Correct.

4 Q. And have you reached any opinions in that regard?

5 A. Yes, I have. As specified in my report, I have looked at  
6 each of the prior references and found that they do not  
7 anticipate.

8 Q. All right. You didn't find any basis to find Mr. Bobel's  
9 patent invalid in any way. Is that right?

10 A. That is correct.

11 Q. In coming to form these opinions, did you review the '529  
12 Patent?

13 A. Yes.

14 Q. Did you study it carefully?

15 A. Yes.

16 Q. Did you familiarize yourself with the Court's rulings in  
17 this case with regard to claim construction and how the claim  
18 terms should be interpreted?

19 A. Yes, I did.

20 Q. And did you apply that understanding in analyzing the  
21 patent, Doctor Zane?

22 A. Yes.

23 Q. And did you use that same analysis in evaluating the  
24 patent of the '529 as compared to the Japanese references that  
25 are at issue in this case?

1 A. Yes, I did.

2 Q. All right. And we are not going to go through the whole  
3 list of documents that you reviewed, but you did review  
4 pleadings in this case. Is that right?

5 A. Yes.

6 Q. You reviewed technical documents and some of the product  
7 schematics for some of ULT's products. Is that right?

8 A. Yes.

9 Q. All right. And you reviewed some deposition testimony  
10 and other things of that nature. Did you have available to  
11 you, Doctor Zane, all of the technical documents that you felt  
12 you needed to render a complete and thorough analysis in this  
13 case?

14 A. Yes; to the extent that the documents were available.

15 Q. All right. Now, I want to ask you about two prior art  
16 references. You reviewed more than two Japanese patent  
17 applications in this case. Isn't that right?

18 A. Yes. That is correct.

19 Q. And did I understand your testimony correctly that you  
20 didn't find any of them were invalidating prior art?

21 A. That is correct.

22 Q. All right. Now, you realize that Doctor Giesselmann only  
23 offered evidence on two of those. Right?

24 A. Yes.

25 Q. And did you agree with his opinions?

1 A. No, I did not.

2 Q. All right. Let's talk first about the JP '799, Doctor  
3 Zane, and that is in Defendant's Exhibit No. 134. Are you  
4 familiar with that Japanese patent application?

5 A. Yes, I am.

6 Q. All right. Now, before I get into the Japanese patent  
7 application, let me back up one moment and ask about the '529  
8 Patent a little bit. Is that a patent you studied carefully?  
9 I believe you already testified that you had.

10 A. Yes.

11 Q. Can you just describe briefly the sorts of problems that  
12 Mr. Bobel was trying to solve with his invention?

13 A. Well, again to be brief, I think we have seen many  
14 testimonies on one the key points of the patent; specifically  
15 looking at methods to detect a failure to shut down the  
16 oscillations and then to reignite and start these  
17 oscillations. And he was specifically looking at how to do  
18 this in the circuit, such as this ballast, that can operate in  
19 various configurations of lamps and can operate with the type  
20 of, for example, filament heating that he showed these  
21 techniques could be used with.

22 Q. All right. And have you been able to find anything,  
23 Doctor Zane, in the prior art that solves these problems in  
24 the way that Mr. Bobel saw them?

25 A. No. As I stated, from the prior art components that I

1 analyzed I did not find that any of them anticipated or showed  
2 or taught these same principles that I think are key to the  
3 Bobel patent.

4 Q. All right. Now, let me put up on the screen for you,  
5 Doctor Zane, a schematic from JP '799. And I will represent  
6 to you that I believe this is Figure 5 from that reference.

7 A. Yes.

8 Q. And in the interest of time, let me go ahead and direct  
9 you -- You have the claim language there in front of you on  
10 one of those blow-up foam boards. And you are familiar with  
11 the claim language?

12 A. Yes, I am.

13 Q. All right. Now, you recognize that this third element is  
14 the control means limitation?

15 A. Yes.

16 Q. All right. And do you understand that that is a means  
17 plus function limitation?

18 A. Yes.

19 Q. All right. And you also recognize that this is a tricky  
20 area of the law, and are you aware the jury has been exposed  
21 to quite an extensive discussion of means plus function  
22 analysis?

23 A. Yes, I have seen some of those discussions.

24 Q. All right. And you recognize that you first have to  
25 identify the claims functions in the claim. Is that right?

1 A. Yes, correct.

2 Q. And then you have to go to the spec and find the  
3 corresponding structure. In this case the Court has assisted  
4 in identifying that. Do you understand that?

5 A. Correct. And then repeat the same for the prior art.

6 Q. And then you have to compare that structure recited,  
7 which is Control Circuit 58, and compare that to the structure  
8 shown in the prior art reference. Is that right?

9 A. Correct.

10 Q. All right. Can you explain and tell the jury whether or  
11 not JP '799 meets the control means requirement of Claim 1 of  
12 the '529 Patent?

13 A. I cannot. Based on the description that was just given,  
14 what I need to first do is go look at the Bobel patent and  
15 look at the claim function and claim means, you know, the  
16 circuit that implements that, and then go and compare it to  
17 the function and the means or the circuit that is shown in the  
18 '799.

19 Now, in this case the specific means, for example, for  
20 initiating these oscillations is a box. It is an empty box.  
21 I can insinuate, I can imagine what kind of a circuit could I  
22 design or think through to put in there, but there is just no  
23 sufficient detail included in this patent to do that direct  
24 comparison; compare the control circuit associated with those  
25 means on the Bobel with the '799.



1 Q. All right. And did you make a determination regarding  
2 whether or not the Control Circuit 58 from Bobel's patent was  
3 the same as the structure shown in this box 3?

4 A. Well, there is nothing in the box. I couldn't make that  
5 comparison.

6 Q. So it is fair to say it is not the same?

7 A. Correct.

8 Q. And likewise, did you make a determination as to whether  
9 or not the structure that is shown or not shown in the black  
10 box 3 is or is not an equivalent to the structure shown in the  
11 Control Circuit 58 of Bobel's patent?

12 A. Again, there is nothing in that box. I couldn't make  
13 that comparison.

14 Q. All right. And I am relatively new to reading  
15 schematics, Doctor Zane, but am I correct in my understanding  
16 that there are no discreet components shown in that box No. 3?  
17 Is that right?

18 A. That is correct. You know, the schematic appears to have  
19 a mix of circuit components and then this box.

20 Q. All right. Let me move forward too Claim 2, Doctor Zane  
21 and just make sure I understand your opinion. Did you  
22 reach -- Does JP '799 teach or anticipate all of the  
23 requirements of Claim 2?

24 A. No, it does not.

25 Q. And do you understand that Claim 2 is a dependent claim?

1 A. Correct.

2 Q. And so to satisfy or anticipate Claim 2 it first has to  
3 meet Claim 1. Is that one of the bases for your opinion that  
4 it does not anticipate Claim 2?

5 A. That is correct. There are a couple of things happening  
6 here. First, of course, we have to look at Claim 1. And this  
7 patent '799, together with the references that the author  
8 cites, is based on a specific key element in the development  
9 of all of these patents, and that is they sense the DC node,  
10 or essentially the DC voltage on this capacitor C0 in order to  
11 detect all of the functions of the controller. And so that  
12 essentially shows that it does not receive a signal, a  
13 resonant signal from the converter that is in Claim 1, it  
14 doesn't give me the required control means from this empty box  
15 from item 3. Those both are associated with Claim 1.

16 And then now as we go onto Claim 2, it is dependent, so  
17 because it doesn't anticipate Claim 1 it doesn't anticipate  
18 Claim 2 either. In addition, the sensing performed here, as I  
19 just mentioned, is of this DC node, this capacitor C0. It is  
20 not sensing down at another point. Because of this, there is  
21 no intermediate node.

22 Q. So do you understand your testimony that JP799 does not  
23 teach a resonant inductor and a resident capacitor connected  
24 in series via an intermediate node?

25 A. Correct.

1 Q. All right. And thank you for filling in on Claim 1. You  
2 mentioned that not only you were not able to find a same or  
3 equivalent structure. First of all, is that right?

4 A. Correct.

5 Q. And then you followed up by saying that it does -- the  
6 control means here does not receive a control signal from the  
7 resonant converter to stop oscillation. Is that right?

8 A. I think that is more important point. I think this is  
9 the key difference, one of the key differences in these  
10 patents. And it is that way throughout the series of  
11 references in this author's description of the '799. They are  
12 really focused on sensing this DC node and how they can  
13 utilize that to detect over time whether a lamp had been  
14 removed or not and whether it had been replaced. This is  
15 quite different from the approach in Bobel, and that is a key  
16 point.

17 Q. All right. Let me now ask you about the JP '997. Is  
18 that also a reference that you are familiar with?

19 A. Yes, it is.

20 Q. And let me put up for you a slide from one of Defendant's  
21 presentations. Let me ask you, in the interest of time, does  
22 JP '997 teach or satisfy the DC blocking means limitation?

23 A. No, it does not.

24 Q. Why not?

25 A. It does not include a DC blocking means attached to each

1 of the output terminals. In this case we can see there are  
2 multiple terminals, each lamp having four, and we don't have a  
3 DC blocking circuit associated with the DC blocking means  
4 attached to each of these terminals, and it is for good  
5 reason. In this case it is a very different approach to the  
6 ballast. They are using the resonant converter --

7 Q. Let me slow down just a hair, Doctor Zane Go ahead.

8 A. They are using a resident capacitor to heat the filaments  
9 instead of the winding, the filament heating winding that is  
10 shown in the Bobel patent. Because of that, there is no need  
11 to put this DC blocking unit around or across or between each  
12 of the output terminals. We can clearly see that in the  
13 schematic. That is why it is missing from some of these  
14 terminals.

15 Q. And you understand that the DC blocking means is the  
16 collection of the DC blocking capacitors?

17 A. Yes.

18 Q. And that the DC blocking means collectively must account  
19 for each set of output terminals?

20 A. Correct.

21 Q. All right. And, in fact -- and it is for that reason  
22 that this reference does not teach DC blocking means. Is that  
23 right?

24 A. That is right.

25 Q. Now, with respect to Claim 5, Doctor Zane, does JP '997

1 anticipate Claim 5 of Mr. Bobel's patent?

2 A. So Claim 5 is associated with having a DC blocking means  
3 for the capacitor in this case associated with the DC blocking  
4 means connected across the terminals. In this case that is  
5 not true.

6 Q. Now, is accounting for each set of output terminals  
7 important? And if so, why?

8 A. Well, yes, it is important. This was specifically what  
9 is included in the claim language of the Bobel patent. The DC  
10 blocking means are connected to all of the output terminals.  
11 In the case of Bobel this is because this is being used for  
12 heating the filaments of each of the lamps. That is important  
13 in each of those cases, and so in that regard a capacitor is  
14 required in each of them.

15 Q. All right. And so it is your opinion that it does not  
16 anticipate Claim 5 of the '529 Patent?

17 A. This does not anticipate Claim 5 because it doesn't have  
18 DC blocking means across the output terminals.

19 Q. And when we say across, is your understanding of what  
20 Mr. Bobel meant by across or between, is that informed at  
21 least in part by Figure 3 of the '529 Patent?

22 A. Yes. We can see this. We could go back to the language  
23 as well in the patent. He is clearly designating -- If we  
24 look on the left hand side, we have one of the DC blocking  
25 circuits. We are showing that with a green label there. This

1 is connected effectively across one of the output terminal  
2 pairs, as shown here. We see this at the two ends, like  
3 bookends, of the two lamps. So on the far left and on the far  
4 right they are both connected across these output terminals.  
5 And then he talks about being connected between, as shown here  
6 between these two lamps.

7 Q. All right. Now, did you hear Mr. Giesselmann refer to  
8 these capacitors as DC blocking capacitors in one of his  
9 discussions?

10 A. Yes.

11 Q. All right. Now, are those called DC blocking capacitors  
12 because they block DC? I mean -- let me rephrase the  
13 question. Is that a label or a name that you assigned to  
14 distinguish these capacitors from other capacitors?

15 A. No. Maybe I caught two pieces of your question. But the  
16 reason I adopted that terminology is it follows what the Bobel  
17 patent describes it as. In a DC blocking circuit, as is  
18 mentioned in the Bobel patent, these capacitors are  
19 specifically labeled and called the capacitors in the DC  
20 blocking circuit, and so that is why I call them DC blocking  
21 capacitors. Of course, all capacitors block DC. That is the  
22 definition. It is by function.

23 Q. All right. And you can identify them in part by  
24 reference to the fact that they are connected in series with  
25 secondary windings. Is that part of how you distinguish them

1 from other capacitors in the circuits.

2 MR. PEARCE: I am going to object I don't think that  
3 was in his report.

4 THE COURT: Overruled.

5 THE WITNESS: I can identify them based on the way  
6 it is described in the Bobel patent. And this is directly  
7 from the patent figure. They are dotted with the dotted lines  
8 around it, and it is the capacitor in series with this  
9 filament winding connected across or between the terminals.

10 Q. (BY MR. SKEELS) All right. Now let me ask you, Doctor  
11 Zane, we have talked about these two Japanese references. You  
12 understand that to find anticipation, the jury would have to  
13 look at each reference standing on its own two feet. Do you  
14 understand that?

15 A. Yes.

16 Q. All right. And you understood that when making your  
17 analysis of these Japanese references. Is that right?

18 A. Yes.

19 Q. And you concluded that neither one of them anticipate any  
20 of the asserted claims of the '529 Patent?

21 A. Yes.

22 MR. SKEELS: I will pass the witness, Your Honor.

23 MR. PEARCE: Your Honor, how much time do I have?

24 THE COURT: You have 12 minutes.

25 MR. PEARCE: Okay. Would you give me a two-minute

1 warning?

2 THE COURT: I will give you a two-minute warning,  
3 you said?

4 MR. PEARCE: Two minutes. Yes, sir. Like it is  
5 fourth quarter.

6 CROSS EXAMINATION

7 By Mr. Pearce:

8 Q. Doctor Zane, good afternoon, or maybe it is evening now.  
9 We have met before, haven't we?

10 A. We have.

11 Q. I took your deposition a few months ago?

12 A. Correct.

13 Q. And I wanted to just talk about a couple of things that  
14 Mr. Skeels asked you about. He was asking you about Professor  
15 Giesselmann's opinion.

16 I just want to confirm for the jury that you are not  
17 offering an opinion that Professor Giesselmann is not a person  
18 of ordinary skill in the art. Am I correct?

19 A. That is correct.

20 Q. You are also not offering an opinion that he is not  
21 qualified to testify as an expert witness in this case. Is  
22 that correct?

23 A. I am not arguing that. Correct.

24 Q. And you would agree that he is well respected in the  
25 electronics area?



1 A. Yes.

2 Q. And isn't it true you, in fact, the two of you don't  
3 disagree on several things when it comes to comparing the  
4 prior art to the '529 Patent? In other words, on several  
5 portions of his analysis, you didn't express any disagreement  
6 in your expert report. Is that correct?

7 A. Correct.

8 MR. PEARCE: And may I approach, Your Honor?

9 Q. (BY MR. PEARCE) If you can see -- Can you see this slide  
10 here or this board --

11 THE COURT: You can step down if you need to.

12 Q. (BY MR. PEARCE) You can step down if you need to?

13 A. Let's see how far if we can go. My eyes are reasonably  
14 good, but I am relatively tired.

15 Q. Okay. Maybe I can hold it up and maybe it will be  
16 easier. I am going to ask about the JP '799.

17 THE COURT: Just make sure he can see.

18 Q. (BY MR. PEARCE) So the first part about the energy  
19 conversion device, you would agree with Professor Giesselmann  
20 that JP '799 does teach that. Right?

21 A. Yes.

22 Q. The second part about voltage source means, again you  
23 agree with Professor Giesselmann that JP '799 has that.  
24 Correct?

25 A. Correct.

1 Q. Third part, output terminals. Same thing?

2 A. Correct.

3 Q. Control means, you disagree with him. Right?

4 A. Correct.

5 Q. Direct current blocking means, you agree with him?

6 A. Correct.

7 Q. Claim 2, you disagree?

8 A. Correct.

9 Q. And then Claim 5, you agree that that particular  
10 additional limitation is taught by '799. Right?

11 A. Correct.

12 Q. Okay. Let me ask you a couple of questions about '799,  
13 then.

14 MR. PEARCE: If I could have Giesselmann slide 5 up  
15 on the screen.

16 Q. (BY MR. PEARCE) I think you looked at one of Professor  
17 Giesselmann's slides earlier, but you didn't look at this one.

18 Do you understand that in the dotted purple box here he  
19 has outlined what he identified as the control means?

20 A. Yes.

21 Q. Do you see that?

22 A. I see it, yes.

23 Q. Okay. And you were here for his testimony earlier.  
24 Right?

25 A. Correct. I was here for his testimony.

1 Q. And so he is identifying here as the control means the  
2 box 3 that you discussed earlier. Right?

3 A. Correct.

4 Q. And also additional discreet components, not just box 3.  
5 Right?

6 A. Correct.

7 Q. So the control means as a whole isn't just box 3. It is  
8 box 3 plus other elements; other resistors and transistors for  
9 example. Right?

10 A. Correct.

11 Q. And you understand -- You talked about means plus  
12 function analysis that you are looking at the whole structure  
13 as a whole. Right?

14 A. Correct.

15 Q. Well, let me withdraw that. You have not offered any  
16 opinion on infringement in this case. Right?

17 A. Repeat the question.

18 Q. I am sorry. You haven't offered an infringement opinion.  
19 You haven't said whether or not any Universal products  
20 infringed the patent. Right?

21 A. Correct.

22 Q. So you cannot tell the jury that under your reading of  
23 Claim 1 that any Universal products infringed the patent.  
24 Right?

25 A. Correct.

1 Q. The second thing I wanted to ask you about was the second  
2 point you mentioned on '799, which was something about the  
3 resonant signal. And I believe you said that the signal was  
4 coming from the DC node between C0 and C2. Right?

5 A. I said that a key point of the patent is that they are  
6 sensing the essentially DC voltage there on that right hand  
7 side of C0. Correct.

8 Q. Does the '529 Patent say that the signal from the  
9 resonant converter in the control means has to be an AC  
10 signal?

11 A. I think it is fairly clear throughout the Bobel patent  
12 that he is talking about resonant inductance resonant  
13 capacitance, resonant behavior of the converter, and the  
14 earlier part of the patent is described as one of the  
15 motivations for the patent just to look at the resonant  
16 behavior of the circuit and protection. And then in the  
17 description of the patent he talks about an AC voltage. This  
18 is how I understand it, yes.

19 Q. Let me make sure this is clear. So here in the actually  
20 text of the control means limitation. You don't see anything  
21 about an AC signal. Right?

22 A. That is why I read it from the resonant converter.  
23 Resonant means it resonates. It goes up and down. It is AC.

24 Q. And that reading is something you are getting from  
25 reading the patent as a whole. Right?

1 A. Reading through the patent as a whole, yes, and  
2 understanding the meaning coming from the author.

3 Q. So you would agree that it is important to read the  
4 patent as a whole to understand what this control means term  
5 means. Right?

6 A. I did this. Correct.

7 Q. Okay. Thank you.

8 The last thing I want to talk about is JP '997.

9 MR. PEARCE: So can you go to show JP '997 and show  
10 the first picture.

11 Q. (BY MR. PEARCE) Sorry. One thing before I get to that  
12 quickly. So you were retained by Lighting Ballast Control in  
13 this case. Right?

14 A. Correct.

15 Q. And you understand that that is a subsidiary of an entity  
16 called Acacia?

17 A. Yes.

18 Q. And you were also -- You have also been retained by  
19 Acacia in connection with a different patent infringement  
20 matter. Correct?

21 A. I was. That is past.

22 Q. Okay.

23 MR. PEARCE: JP '997, can you put that up? Can you  
24 go to the next slide so we can see it more easily. Actually  
25 go to slide -- the fifth one, the fifth or sixth one, the one

1 about direct current blocking.

2 Q. (BY MR. PEARCE) Okay. So you said here that basically  
3 the direct current blocking means are, for purposes of Claim 5  
4 at least, are not connected across the filaments, any of the  
5 filaments of the lamps. Right?

6 A. For Claim 5? Yes.

7 Q. You submitted an expert report in this case. Right?

8 A. Yes.

9 Q. Does this look like the first page of your expert report?

10 A. Yes, it does.

11 Q. I will represent to you this is a copy of your report.

12 And when you submitted your report, you had to submit a list  
13 of materials that you had looked at and considered in  
14 determining -- in forming your opinions. Correct?

15 MR. SKEELS: Your Honor, I don't believe this is in  
16 evidence and probably should not be displayed to the jury.

17 THE COURT: Overruled.

18 Q. (BY MR. PEARCE) Okay. And here at the end there is  
19 something that is Exhibit B list of documents reviewed.  
20 Correct?

21 A. Correct.

22 Q. It is not a very good page. But you did review documents  
23 and list them in your report. Correct?

24 A. Correct.

25 Q. And one of the documents you reviewed was listed here as

1 "Plaintiff's infringement contentions, including attached  
2 PowerPoint presentations." Do you see that?

3 A. Yes.

4 Q. Do you recall looking at those documents?

5 A. I never really did look much at these. I listed here  
6 everything that I had ever been given. And when I was first  
7 retained, I was sent these PowerPoints, and I never did really  
8 look at them with any specificity.

9 Q. Okay. Well, you were talking earlier about the  
10 difference between across in the '529 Patent and connected  
11 between. Right?

12 A. Correct.

13 Q. And you view between and across being two different  
14 things. Right?

15 A. Correct.

16 Q. In the context of the '529 Patent.

17 A. In the context of the way Bobel described it.

18 MR. PEARCE: Can you pull the first page of DTX-50,  
19 please?

20 MR. SKEELS: Is it in evidence?

21 MR. PEARCE: It is not in evidence right now, no.

22 MR. SKEELS: Then don't show it to the jury.

23 MR. PEARCE: Well, Your Honor, I want to show the  
24 infringement. It is not in evidence, but I want essentially  
25 impeach the testimony he gave earlier.

1 THE COURT: Show him the document.

2 MR. PEARCE: Okay. Can I show it on the screen,  
3 or --

4 THE COURT: Just hand him a copy of the document if  
5 it is not in evidence. And what is it you are impeaching?

6 MR. PEARCE: The testimony essentially that across  
7 and between are different things.

8 THE COURT: Okay.

9 MR. SKEELS: Your Honor, he hasn't established that  
10 he relied on this document in forming his opinion.

11 THE COURT: Let's go. Show him the document.

12 Why don't you go down there and look at that. Can you  
13 turn the screen off and let him look at the document?

14 MR. PEARCE: Okay. Sure.

15 Q. (BY MR. PEARCE) Doctor Zane --

16 THE COURT: You can't show a document that is not in  
17 evidence unless it is going to get in evidence.

18 MR. PEARCE: I understand, and I apologize for that.

19 THE COURT: So go on down there.

20 Q. (BY MR. PEARCE) Okay. Doctor Zane, I apologize for  
21 that. I just want to confirm, this is DTX-50, and this is  
22 Plaintiff's preliminary infringement contentions for Universal  
23 Products. Correct?

24 MR. SKEELS: Your Honor, we would object again.

25 THE COURT: Overruled. Is that what it is?



1 THE WITNESS: Yes. This is what he just read.

2 Correct.

3 Q. (BY MR. PEARCE) And do you remember seeing this as one  
4 of the things you looked at?

5 A. No, I don't.

6 Q. Okay. I am going to flip to the second to last page.

7 This is Claim 5, and it says, "The accused ballast" --

8 THE COURT: Hold on. You just can't read it. What  
9 is your basis for reading it into evidence?

10 Q. (BY MR. PEARCE) Okay. Doctor Zane, let me ask this  
11 question.

12 THE COURT: You have two minutes left.

13 MR. PEARCE: Thank you.

14 Q. (BY MR. PEARCE) Do you see the figure drawn here?

15 MR. SKEELS: Objection, Your Honor.

16 THE COURT: Overruled.

17 THE WITNESS: Yes, there is a figure here, yes.

18 Q. (BY MR. PEARCE) Do you believe that what has been  
19 outlined here is connected across the filaments of any lamp?

20 A. What are you pointing at?

21 Q. The thing here outlined in blue.

22 A. That this is connected -- this is what I just testified  
23 as being connected between.

24 Q. And what does it say here about whether that meets  
25 Claim 5?

1 A. You want me to read this statement here?

2 Q. I am just asking, does it say that it impedes Claim 5 --

3 MR. SKEELS: Objection, Your Honor. We don't think  
4 this should be read into the record.

5 THE COURT: Overruled.

6 THE WITNESS: I need to read this to know.

7 THE COURT: Let him read it to himself. Tell me  
8 when you are finished reading it.

9 THE WITNESS: Okay. And what was the question?

10 Q. (BY MR. PEARCE) My question is simply is this  
11 interpretation of the claim here inconsistent with what you  
12 testified about earlier about the difference between across  
13 and between?

14 A. I don't think so. So you are asking me does this figure  
15 contradict my statement?

16 Q. Yes, that is what I am asking, in terms of what is  
17 identified here as being across.

18 A. So here they identify the circuit that I identified as  
19 being between as being connected across.

20 Q. Okay. Thank you.

21 MR. PEARCE: That is all that I have. Pass the  
22 witness.

23 THE COURT: And you have eight minutes left and you  
24 have one minute left.

25 REDIRECT EXAMINATION

1 By Mr. Skeels:

2 Q. Doctor Zane, I am putting for you on the screen again a  
3 schematic from JP '799. Explain to the jury why this does not  
4 satisfy the limitation of receiving a control signal from the  
5 resonant converter to stop the oscillations.

6 A. So as I stated, the patent is fairly clear about the  
7 resonant converter, talking throughout it about resonant  
8 conductance, resonant capacitance, and the resonant behavior.  
9 And even in the shutdown behavior it is described as an AC  
10 voltage, which means an oscillating voltage up and down. And  
11 he talks about this AC voltage growing as a natural behavior  
12 of the converter. That is what we are trying to detect to  
13 shut down. That is what we are trying to protect. This  
14 happens very quickly when it is AC in nature.

15 What is being done here is different. So in the Bobel  
16 patent it specifically says we are sensing a signal from the  
17 resonant converter, which I recognize as an AC resonating  
18 signal from the converter. And by doing so, we can detect  
19 this rapid rise in voltage and protect things. Many  
20 advantages of that --

21 Q. Doctor Zane --

22 A. And I will move on.

23 In this case, the voltage that we are sensing is the  
24 right hand side of C0. This is not an AC signal. This is  
25 essentially a DC signal. And now this behavior is quite

1 different. It will not detect immediately an AC rise in the  
2 resonant signals of that converter. It will take time for  
3 that behavior to present itself on this essentially DC node.

4 Q. And, Doctor Zane, just so we are clear on Claim 2, do I  
5 understand your testimony that this JP '799 does not teach a  
6 resonant -- with regard to Claim 2 does not teach a resonant  
7 inductor and a resonant capacitor connected via an  
8 intermediate node as you understand that term as one skilled  
9 in the art?

10 A. Correct. Based on the specific --

11 Q. Doctor, that will be fine. Thank you.

12 MR. SKEELS: No further questions?

13 THE COURT: Do you have anything else?

14 MR. PEARCE: I do not. I think in light --

15 THE COURT: You may step down.

16 MR. PEARCE: I think in light of his testimony, I  
17 would like to move DTX-50 into evidence.

18 THE COURT: We will take that up here in a minute.

19 MR. SUDER: We would now call, Doctor Roberts, for I  
20 believe five minutes.

21 THE COURT: Six minutes.

22 MR. SUDER: Six minutes, thank you.

23 THE COURT: You are still under oath, sir.

24 THE WITNESS: Thank you, Judge.

25

1                                    VICTOR ROBERTS,

2        Testified on direct examination by Mr. Suder as follows:

3        Q.     Doctor Roberts, before we begin I am going to show you  
4        what has been marked as Plaintiff's Exhibit No. 90, and then I  
5        am going to show you what has been marked as Plaintiff's  
6        Exhibit No. 91, 92, and over here I have marked as Plaintiff's  
7        Exhibit No. 93. And then, Doctor Roberts, a quick question.

8                When you heard Mark Poehlman testify yesterday about the  
9        product that he selected for the testing of the CFL product  
10       groups, what was your reaction?

11       A.     God, I finally understood why the analysis that I did  
12       wasn't matched by the testing Mr. Burke did on the  
13       representative product for CFL-1 and also on the testing that  
14       I did on another sample of that same part -- two samples of  
15       that same product Mr. Poehlman sent me, and that is  
16       essentially Plaintiff's Exhibit No. 90. That is the  
17       particular ballast, and that is one of the two samples  
18       Mr. Poehlman sent me.

19       Q.     And Plaintiff's Exhibit No. 90 has the date code of  
20       07/40, which is the same one Mr. Burke tested.

21       A.     Yes, it does have a date code of 07/40.

22               THE COURT: Your Honor, we would offer Exhibit  
23       No. 90 into evidence.

24               THE COURT: It will be admitted.

25       Q.     (BY MR. SUDER) Now, let's look at the other three.

1 After you did your test on Plaintiff's Exhibit No. 90, did you  
2 undertake to find different products in that group on eBay  
3 with different date codes?

4 MR. ROUTH: This was the subject of a motion we made  
5 and the Court sustained an objection for late disclosure, so I  
6 am not sure --

7 THE COURT: And I struck Poehlman's testimony.

8 MR. ROUTH: That is right. And so I don't think  
9 there is any basis to go into this testimony now.

10 MR. SUDER; Your Honor, I am trying to establish and  
11 offer these into evidence. I believe one has already been  
12 tested to the jury and shown during a presentation without  
13 objection.

14 MR. ROUTH: It wasn't shown with testimony from a  
15 witness who was required to submit a report and didn't submit  
16 a report on what he had done. It is a very different thing.  
17 The reason the Court kept out what is now being offered was  
18 because this witness --

19 THE COURT: Overruled.

20 Q. (BY MR. SUDER) Doctor Roberts, did you find three of  
21 these --

22 A. Yes, I understand the question. I first tested a ballast  
23 that I actually had from the prior work I did in the project  
24 which is in the same group. I then went to eBay and I bought  
25 two additional models, four of one model and two of another

1 model, all of which had date codes within the same generation  
2 as identified by ULT.

3 Q. They are not in the same batch 07/40.

4 A. They are different date codes. There are approximately  
5 two years apart, or a year and a half apart in the production  
6 for the C2642. And the other two products are entirely  
7 different products but are identified by Mr. Burke as really  
8 performing the same as the representative product that he  
9 tested.

10 Q. Did you test them in the same manner as Doctor Burke  
11 indicated that he performed his test in his report?

12 A. I tested them the same manner as is Figure 2, which is  
13 the no load test, which is the same test you get when you pull  
14 the lamp out.

15 Q. Did they operate differently than the one that Mr. Burke  
16 tested?

17 A. Yes, they did. Mr. Burke's continued to run. These  
18 particular ones ran for six seconds for the C2642, and about  
19 two seconds for the other ballast before they finally shut  
20 down.

21 Q. Did these other ballasts confirm your analysis from  
22 reviewing the schematics, the wiring diagrams, the IC code,  
23 the microprocessor code, and everything else you looked at?

24 A. Yes.

25 Q. And was the answer finally solved when Mr. Poehlman

1 testified?

2 A. Yes, it was.

3 Q. Thank you.

4 MR. SUDER: Your Honor, we would offer these four  
5 ballasts into evidence at this time.

6 THE COURT: What are the exhibit numbers?

7 MR. SUDER: No. 90, 91, 92; plaintiff's 90, which is  
8 the one from the same batch --

9 THE COURT: No. 90 is in evidence.

10 MR. SUDER: Okay. No. 91, 92, and 93.

11 MR. ROUTH: Object. This is the first time I have  
12 seen these products.

13 THE COURT: Come look at them.

14 MR. ROUTH: I don't have an ability to inspect them.

15 THE COURT: Come look at them.

16 MR. ROUTH: Had they been produced timely, we would  
17 decide what they were. So it is 91, 92, and is there a 93?

18 MR. SUDER: It is the one right here that you saw  
19 during the demonstration.

20 MR. ROUTH: What is the date?

21 MR. SUDER: No. 92 has a date code of 07, this one  
22 has a date of 09, and this one has a date code of 2005; so  
23 2005, 2007, and 2009.

24 THE COURT: They will be admitted, No. 91, 92,  
25 and 93.



1 Q. (BY MR. SUDER) Now last, Doctor Roberts --

2 THE COURT: You have one minute.

3 Q. (BY MR. SUDER) I am handing you Plaintiff's Exhibit  
4 No. 94. Is that a Linear Group 1 representative ballast?

5 A. Yes, it is.

6 MR. SUDER: We offer Plaintiff's Exhibit No. 94 into  
7 evidence.

8 THE COURT: It will be admitted.

9 Q. (BY MR. SUDER) Doctor Roberts, you have got to sit here,  
10 and everything you have heard have your opinions changed at  
11 all from everything you have heard?

12 A. Only that my analysis has been reconfirmed, and now I  
13 understand why those particular ballasts that Mr. Burke tested  
14 did not work as they should have worked.

15 Q. And does it confirm also that if you are going to test  
16 products, you better take a representative sample?

17 A. You better take a variety of samples to make sure that  
18 the one you select is indeed representative and not itself  
19 defective.

20 MR. SUDER: No further questions, Your Honor.

21 THE COURT: You have one minute.

22 CROSS EXAMINATION

23 By Mr. Routh:

24 Q. Mr. Roberts --

25 MR. SUDER: Doctor Roberts.

1 Q. (BY MR. ROUTH) Doctor Roberts. Prior to your testimony  
2 here about these ballasts, have you ever given us any  
3 disclosure of any of what you just testified to?

4 A. Absolutely. The day before my first deposition -- I  
5 tested this ballast a couple of days before in my first  
6 deposition, we actually talked about it at my first  
7 deposition, I believe. We sent you a supplemental report with  
8 a photograph of this and the oscilloscope trace the day before  
9 my first deposition.

10 Q. The ballast you are talking about is one marked Exhibit  
11 No. 91, and this is the one you told me on the first  
12 deposition never shuts down. Right?

13 A. No. This is the one that never shuts down, the one you  
14 sent me that we tested. But the one I tested that I had had,  
15 which is in the same original CFL Group 5, and now part of CFL  
16 Group 1, did shut down within two seconds. We sent you a  
17 report with the oscilloscope trace and sent it to you before  
18 the first deposition.

19 Q. I apologize. This is the one you told me at your  
20 deposition never shut down.

21 A. That is the one that I said I tested --

22 Q. Doctor Roberts --

23 A. And this is the one provided by Mr. Poehlman.

24 Q. This is the one that you told me run for 6.2 seconds.

25 A. No. That one runs for about two seconds. The ones that

1 run for six seconds that we discussed I believe during the  
2 trial are the other date codes of this model. That is a  
3 different model.

4 Q. And this one that runs for --

5 A. I believe that is two seconds. I looked at the report  
6 last night. I believe it is two seconds.

7 Q. Or 2.6, wasn't it. And it had --

8 A. 2.2, 2.6.

9 Q. And it had three restrike attempts. Right?

10 A. During the two seconds it may have had some, but my only  
11 focus was whether or not it shuts down.

12 Q. It doesn't just shut down, though. It tries to restrike  
13 three times before it shuts down. Do you remember that?

14 A. Additional features are allowed. I was looking for  
15 shutdown.

16 MR. ROUTH: Nothing further.

17 THE WITNESS: Shutdown. And I wasn't counting  
18 restrikes, if they did occur. And restrikes do not mean the  
19 ballast is turning off and turning on. It means the ballast is  
20 changing frequency to restrike the lamp.

21 Q. (BY MR. ROUTH) Shifting frequency?

22 A. Shifting frequencies to restrike the lamp for a few  
23 seconds.

24 MR. ROUTH: Nothing further.

25 THE COURT: Very good. You may step down, sir.

1 MR. SUDER: We rest, Your Honor.

2 MR. ROUTH: I don't think we have any time. We  
3 would like to do something outside the presence of the jury.

4 THE COURT: All right. And that is what? More  
5 evidence?

6 MR. ROUTH: No; a motion.

7 THE COURT: Okay.

8 MR. ROUTH: And also I think was there a ruling you  
9 wanted to discuss DTX-50, the exhibit Mr. Pearce offered a  
10 minute ago while the jury is here, or not?

11 THE COURT: Okay. This is likely all the evidence  
12 you will have heard. I will consider this, and to the extent  
13 it should be admitted, we will admit it to you first thing in  
14 the morning so we don't have to keep you here while we discuss  
15 this. So it is likely that, other than admitting something,  
16 you have heard all of the evidence and all of the testimony in  
17 this case.

18 It is now time for me to discuss matters with the lawyers  
19 outside of your presence, including matters related to the  
20 jury charge, the instructions on the law that I will read to  
21 you tomorrow before closing arguments. It is likely to be a  
22 fairly long document, and it will take me some time to read it  
23 all to you. The law requires me to read it to you, but you  
24 will also be able to take the document back with you to the  
25 jury room so you can look at it and read it yourself. It is

1 going to contain all of the law and all of the instructions  
2 that you need to decide this case.

3 Frequently in cases I will read the document and I will  
4 give the document to the jury and they will come back and say,  
5 "What do you mean about this," and "What do you mean by this  
6 word," and "What do you mean by that word?" Once we read that  
7 document to you, it is your job to read the document,  
8 understand the document, apply the document to the facts that  
9 you have heard. So remember that when go back there. And it  
10 will just make your time more productive and make the  
11 deliberations go more smoothly.

12 I think I am going to ask that you come back at 9:00 in  
13 the morning. Because we finished relatively early here this  
14 evening, we can spend time going later into this evening to  
15 hopefully get everything done so that we can get you in at  
16 9:00 in the morning and we can get you started at 9:00 in the  
17 morning. That would be ideal. It doesn't always work that  
18 way for one reason or another. So I am going to ask you to  
19 come back at 9:00 in the morning, but if for some reason we  
20 are delayed it will be my fault. It won't be the result of  
21 anything the parties have done. It will be my fault and my  
22 fault alone. But if we are delayed, I would ask for your  
23 patience.

24 And please rest assured we are working as hard as we can  
25 to get these things resolved to get you back in the jury box

1 to get the presentation going so that you can then go and  
2 deliberate on, which at the end of the day is what we are  
3 going to need you to do. So that is the road forward from  
4 here.

5 So we are going to end now. Please remember all of my  
6 instructions. Just because all of the evidence, or the vast  
7 majority of it has been presented to you, still does not  
8 permit you to talk about the case with anyone outside of the  
9 court or even amongst yourselves or smaller groups amongst  
10 yourselves. Please hold off just a little bit longer. Once  
11 closing arguments are done, then you will be released from  
12 that and you will be permitted to talk about it amongst  
13 yourselves in the deliberations. That is what deliberations  
14 are.

15 Please do not perform any independent investigation.  
16 Don't go looking up anything in the internet, dictionaries, or  
17 talk to anyone else about any aspect of this case. And don't  
18 post any social media stuff about this case. We are at the  
19 end of the case, and it would be, in my view, a great tragedy  
20 if you did something like that that would cause us to have to  
21 start the trial all over again, and that would be very sad on  
22 my part for a number of reasons.

23 So you are excused for today. Please remember those  
24 instructions, and we will see you at 9:00 in the morning, or  
25 as close to 9:00 as possible.

1 And thank you all very much. I cannot thank you enough  
2 for all the hard work you put in in this case. We will see  
3 you all in the morning.

4 (Whereupon, the jury left the courtroom.)

5 THE COURT: Okay. So tell me the exhibit --

6 MR. ROUTH: It was their infringement contentions.

7 MR. PEARCE: A portion of the infringement  
8 contentions marked as Defendant's Exhibit No. 50. And I was  
9 handling that a little bit clumsily and I apologize, but I  
10 would like to offer and admit it into evidence now.

11 THE COURT: Tell me what it is again. It is the  
12 across versus connected to?

13 MR. PEARCE: Yes. It was on Claim 5. He was  
14 drawing a distinction in his testimony between across on the  
15 one hand and between on the other hand.

16 THE COURT: Let me see it.

17 MR. PEARCE: If you look at the last slide from the  
18 contentions it says something that he identified as being a  
19 connection between two lamps.

20 THE COURT: So you want to offer this last page or  
21 all of these.

22 MR. PEARCE: I want to offer all of it, but if not  
23 all of it, then all we really talked about was the first page  
24 and the last two pages. So that would be acceptable. I don't  
25 need the other. And that is what was talked about.

1 MR. SKEELS: I do have numerous objections, Your  
2 Honor.

3 THE COURT: Go ahead.

4 MR. SKEELS: One is Doctor Zane never testified he  
5 relied upon it. He was retained to look at a number of  
6 issues. At the end of the day we only used him for invalidity  
7 purposes, so he did not rely on this for his opinions. He did  
8 not establish that he drafted it or had anything to do with  
9 drafting it. And further you will notice that the last page,  
10 instead of referring to a DC blocking circuit refers to DC  
11 blocking circuits plural, for whatever reason only one was  
12 drawn instead of three. But having it been in evidence, I  
13 would have had an opportunity for optional completeness, but  
14 we believe that the offer to put it into evidence was untimely  
15 and has been waived.

16 MR. SUDER: Your Honor, these are pleadings by  
17 lawyers as infringement contentions early on in the case  
18 before any document production or anything.

19 THE COURT: Okay. It will be admitted. It is an  
20 admission, and that is admitted into evidence. That is  
21 Defendant's Exhibit No. 50. Is that right?

22 MR. PEARCE: Yes.

23 THE COURT: What else?

24 MR. SUDER: On that point under optional  
25 completeness, in connection with that there were two other



1 infringement contention documents that I think if you are  
2 going to let them in. --

3 MR. SKEELS: If that is going to be allowed in, we  
4 would like to put two others that do, in fact, show -- that  
5 are properly drawn that show DC blocking circuited directed  
6 across. That is the only one of three that has been  
7 cherry-picked where instead of putting a box around all three  
8 Dc blocking circuits they put a box around one of them.

9 MR. PEARCE: I don't know if I understand the  
10 objection about cherry-picking. There were three sets of  
11 infringement contentions. Are you trying to offer it --

12 THE COURT: It is overruled. There is no evidence  
13 of optional completeness nature, and so it is overruled.  
14 Exhibit 50 is in.

15 What else?

16 MR. ROUTH: Your Honor, I think we are ready to  
17 move -- We have a motion.

18 MR. SUDER: I guess they objected. We offer those  
19 in. --

20 THE COURT: That is denied.

21 MR. SUDER: Okay.

22 MR. ROUTH: Your Honor, we would like to move for  
23 judgment at the close of evidence.

24 The same grounds we stated at the close of Plaintiff's  
25 case, I would add to it that we believe that the evidence

1 presented shows the patent to be invalid as anticipated by the  
2 two references.

3 I won't repeat all of the positions. We did hand up  
4 *Cross Medical*. I do think that is a case that I urge the  
5 Court to consider on the output terminals connected to term.

6 If the Court has any questions I am happy to address them  
7 on these issues, but I think I probably said as much as you  
8 want to hear.

9 THE COURT: All right. Very good.

10 MR. SUDER: Your Honor, we believe they are not  
11 entitled to judgment as a matter of law on any of the points.  
12 We have a brief on connected to if you want it. I think  
13 Doctor Giesselmann was the final nail in the coffin for them  
14 when he said he used them interchangeably. So the only  
15 evidence from everyone who is skilled in the art that they  
16 mean the same thing.

17 And on the other issues, I believe they put forward no  
18 evidence on marking. We have established that Robertson  
19 marked. We have shown it to the jury. We have evidence from  
20 Mr. Bobel that he policed it, he looked at it, and he  
21 satisfied his obligations right up until the time -- forever.  
22 Every agreement had it, and he checked. So that argument is  
23 out.

24 I think on all of them there is sufficient evidence, more  
25 than ample evidence to support every claim that we have

1 asserted. And I would also add on the Linear Group 3  
2 products, which was an issue, we said there was evidence in  
3 the record, Mr. Burke testified by them that all three of the  
4 linear products 1, 2, and 3, all operate the exact same way,  
5 and they put up a slide for all three products that said they  
6 operate the same way and here is why I don't think all three  
7 of them infringe. So I believe there now is more than  
8 evidence that they offered from which the jury can find  
9 infringement in Linear Group 3.

10 THE COURT: All right.

11 MR. ROUTH: Your Honor, two points real quick. On  
12 the linear groups, that they operate and start the same way,  
13 we had separate slides. They don't operate the same way on  
14 everything. No. 3 is different and No. 3 goes to the DC  
15 blocking means point that there was no expert testimony on  
16 from them that says 3 is different, if you look at the slides.

17 And then on the marking, Your Honor, the burden is on the  
18 Plaintiff to prove substantial and continuous marking.  
19 Putting in a ballast from the 1990s, when there is evidence  
20 that there was production by Robertson through the decade of  
21 the 2000s doesn't meet that burden.

22 THE COURT: Okay. Very good.

23 MR. SUDER: Your Honor, we do have a motion, or it  
24 is more of a jury charge. There is a whole bunch of  
25 instructions on obviousness, which are not in the case now.

1 Doctor Giesselmann did not put forth any evidence that he  
2 considered a combination or a single piece of art that is  
3 missing something and that, therefore, he is combining  
4 anything. So obviousness is out of the case now.

5 MR. ROUTH: We withdraw that instruction, Your  
6 Honor.

7 MR. SUDER: Also on Latches there is no evidence on  
8 Latches that we unreasonably delayed. But the other element  
9 is that they have to show prejudice. And Mr. Sullivan, I was  
10 very specific in my questions, that they didn't do anything  
11 different, did everything the exact same way. We think there  
12 is absolutely no basis to submit an instruction on Latches,  
13 and by the same token on waiver. There is no evidence  
14 whatsoever regarding waiver.

15 MR. ROUTH: I want to consider it -- First of all,  
16 Mr. Suder is wrong on prejudice. Where someone delays  
17 bringing a case, continuing to manufacture which runs your  
18 damages is itself prejudice. We have no problem meeting the  
19 prejudice prong.

20 I want to consider the evidence on Latches as to whether  
21 we want to make that as a closing argument point.

22 THE COURT: Well, consider that, and I will be back  
23 out to talk about this. We will be back in about 15 minutes.

24 (Brief recess.)

25

1 I HEREBY CERTIFY THAT THE FOREGOING IS A  
2 CORRECT TRANSCRIPT FROM THE RECORD OF  
3 PROCEEDINGS IN THE ABOVE-ENTITLED MATTER.  
4 I FURTHER CERTIFY THAT THE TRANSCRIPT FEES  
5 FORMAT COMPLY WITH THOSE PRESCRIBED BY THE  
6 COURT AND THE JUDICIAL CONFERENCE OF THE  
7 UNITED STATES.

8  
9 S/Shawn McRoberts 06/16/2011

10 \_\_\_\_\_ DATE \_\_\_\_\_  
11 SHAWN McROBERTS, RMR, CRR  
12 FEDERAL OFFICIAL COURT REPORTER  
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**Trial Transcript, Volume E, Dated June 16, 2011**

IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF TEXAS  
WICHITA FALLS DIVISION

LIGHTING BALLAST CONTROL LLC, ) 7:09-CV-0029 O  
Plaintiff, )  
v. ) Jury Trial Volume E  
UNIVERSAL LIGHTING TECHNOLOGIES )  
Inc., )  
Defendant. ) June 16, 2011

BEFORE THE HONORABLE REED C. O'CONNOR  
*United States District Judge*  
*In Wichita Falls, Texas*

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The above styled and numbered cause was reported by  
computerized stenography and produced by computer.



1 (June 16, 2011. Late evening.)

2 **THE COURT:** Okay. I will defer ruling on the motions  
3 for judgment as a matter of law and submit the case to the  
4 jury.

5 Okay. I've sent out -- Let me just ask you, what did  
6 I decide on latches and waiver?

7 **MR. ROUTH:** I would to like to leave it in, Your  
8 Honor.

9 **THE COURT:** You want to leave it in. Tell me what is  
10 it -- explain your evidence on that to me. First, let's start  
11 with waiver. Explain the evidence that Mr. Bobel has waived  
12 his right to enforce the patent.

13 **MR. ROUTH:** He sent a letter in 2005, sent one  
14 follow-up letter and then never did anything after that until  
15 2009. In the interim, we sent him a letter telling him that  
16 we didn't infringe and that his patents were invalid and he  
17 left that alone. I think there's an implied waiver that he  
18 intended -- that he either gave up or heard our answer and  
19 said I'm not going forward with this and after four years I  
20 think we can argue to the jury, I don't mean to suggest to the  
21 Judge we're entitled to judgment on it, but we can argue to  
22 the jury a that was an intentional relinquishment of his  
23 otherwise right to sue.

24 **THE COURT:** Isn't your -- part of your defense is  
25 that he's threatening to sue everyone, like he's on a

1 litigation warpath sending letters out to everyone.

2 **MR. ROUTH:** There were thirty letters sent and there  
3 are twenty something people who have never heard from him.  
4 That's exactly right.

5 **THE COURT:** How is that an intentional relinquishment  
6 of his known rights if he is -- if he is in your theory of the  
7 case he is threatening to sue everyone. It's just  
8 unreasonably so. How is he waiving his rights when he's --

9 **MR. ROUTH:** Threatening to sue everyone doesn't waive  
10 his rights. Threatening to sue everyone doesn't waive his  
11 rights. Threatening to sue everyone, going away for four  
12 years against us and so far six to eight years for lots of  
13 other people, he's not somebody who's pursuing his rights in a  
14 way that says that he's intending to do it. He will make a  
15 threat and not follow up on it.

16 So, I think the fact that he sent out thirty letters  
17 and he had a lawsuit -- no lawsuit for four years and four  
18 years later, actually a different company, Mr. Bobel still  
19 hasn't sued anybody, he gets a different company to bring a  
20 lawsuit against four people, that, to me, again, at least  
21 gives rise to an inference that he's relinquished his rights.

22 **THE COURT:** Now -- Okay. Explain to me latches then.

23 **MR. ROUTH:** Latches, there's evidence from which the  
24 jury can infer that by 1999 Mr. Bobel knew about infringement  
25 in the industry generally from his testimony and specifically

1 with respect to Magnetek and ESI products. He has a letter  
2 from Robertson which asks him to return the competitive  
3 samples he was supposed to be analyzing of which included a  
4 Magnetek and ESI samples. I understand he testifies I didn't  
5 ever have them, but a jury could draw an inference he was  
6 actually looking at our products as early as 1999 and then  
7 waiting, which is not an uncommon strategy in this field,  
8 waiting for us to pile up sales over the course of the next --  
9 waited at least five years before he made a threat and nine  
10 years before he brought a lawsuit so that he would have a nice  
11 big set of damages he could seek.

12 If he sued us in 1999, we could have stopped  
13 manufacturing whatever he says is the infringing method or  
14 infringing apparatus and saved ourselves a lot of money or go  
15 to court and be told we infringe and save ourselves a lot of  
16 money. Instead, he did what a lot of plaintiffs have done in  
17 this area, he said let's wait, let's get six years or more of  
18 sales with what I think are the infringing products, and then  
19 I'll show up with a lawsuit.

20 In fact, it's interesting that there are exactly six  
21 years between the 1999 evidence of his investigating UL --  
22 investigating Magnetek and ESI ballasts and then deciding to  
23 send a lawsuit and say now it's time for me to collect some  
24 money. You're going to be subject to treble damages over the  
25 last six years.

1           So, again, I'm not suggesting to the Court that this  
2   is a slam dunk, but certainly there's evidence in the record  
3   from which the jury could infer that he pursued his strategy  
4   of delay.

5           **MR. SUDER:** Your Honor, may I respond?

6           **THE COURT:** Yes.

7           **MR. SUDER:** The only evidence in 1999/2000 from  
8   Mr. Bobel was uncontroverted is that the ESI product  
9   specifically did not infringe and then they went into  
10   bankruptcy and he went off and was working in a lightbulb  
11   business with Neptun in China and it wasn't until April of  
12   2005 when he was with his accountant and around that time he  
13   discovered it and asked his accountant for an attorney and six  
14   months later a letter was written.

15           That is the only evidence. I mean, if that's the  
16   case, anyone who has a patent twenty years ago should say you  
17   should have known the day you got your patent issued. There  
18   has to be -- the evidence of latches has to be some evidence.  
19   You can't just infer because -- Let's say because he has a  
20   patent I infer that you should have enforced it. He was very  
21   specific about what he did, what was going on in his life.  
22   And it wasn't until April of 2004 when he learned of the ES  
23   product because he thought they were in bankruptcy, he learned  
24   ULT bought them, contacted an attorney within six months.  
25   They could have deposed the accountant. They could have

1     deposed the lawyer, they could have done anything to develop  
2     that evidence. Then you have -- he waits a year and then  
3     within two years he finds Acacia. I don't think there's  
4     anything with latches. Plus, they have to show prejudice.  
5     They have to show that they did something different.

6             **MR. ROUTH:** We did.

7             **MR. SUDER:** And Mr. Sullivan, the only evidence, they  
8     can -- Routh can argue whatever he wants, but the only  
9     evidence, I asked Mr. Sullivan, we didn't think we did  
10    anything wrong. We didn't do anything differently. This is  
11    exactly what we did. So, even if there was some inference of  
12    latches, they still have to show prejudice and they just can't  
13    get there, Your Honor.

14            This is just a prejudicial instruction. And I  
15    don't -- and then waiver, I mean, like you said, where is  
16    there relinquishment? If anything, he did the anti-waiver and  
17    they -- like you said, Your Honor, they -- they got the  
18    letter, there was like, oh, my God, we're about to get sued.  
19    How can you say that he waived his rights when they construed  
20    a letter that he said was just an offer of negotiations.

21            They want to spin that and say it was a threat of  
22    litigation. They are entitled to. But that doesn't rise to  
23    the level of waiver under any circumstances. We think both  
24    those issues have no basis in this case.

25            **MR. ROUTH:** Your Honor, on the waiver, I don't think

1 the waiver occurred when he sent the letter. I think the  
2 waiver occurred during the four year period between then and  
3 when he filed the lawsuit. He gave up his rights.

4 On the latches, Mr. Bobel has a story. Mr. Bobel  
5 says I always thought those ESI products were different, so  
6 that's why I didn't sue them. Well, that fits nicely to  
7 defend against latches. And then he says but I later learned  
8 they did infringe and so --

9 **THE COURT:** What is your prejudice though?

10 **MR. ROUTH:** The prejudice is the years in which had  
11 he brought his claim forward we could have either changed  
12 our --

13 **THE COURT:** Where is the evidence of that? I know  
14 you're arguing that. What's is the evidence?

15 **MR. ROUTH:** The evidence is -- is intrinsic to patent  
16 cases. If he had sued us in 1999, we would not be incurring  
17 damages for 2003 through 2009. We didn't have the products in  
18 the market until 1999 that practiced this invention, according  
19 to him.

20 **THE COURT:** So, are you selling me that in patent  
21 cases that there is a unique legal exception that --

22 **MR. ROUTH:** I'm sorry. I don't mean to be --

23 **THE COURT:** You never listen to my question.

24 **MR. ROUTH:** I apologize, Your Honor.

25 **THE COURT:** That there is a unique legal exception to

1 showing prejudice. That is you have -- you don't have to  
2 present any facts of prejudice, you simply have to show the  
3 dates, raise inferences regarding the dates certain events  
4 happened, and you can always then argue we could have changed  
5 our conduct. And that's sufficient to show prejudice?

6 **MR. ROUTH:** No, Your Honor. It's not an exception  
7 and it's not a defense without facts. It's an application of  
8 the traditional latches for principles to the situation in a  
9 patent case or in case where something --

10 **THE COURT:** Let me just stop you there. But the  
11 traditional latches principles are the legal elements of  
12 latches.

13 **MR. ROUTH:** I understand.

14 **THE COURT:** All right. And so the legal -- an  
15 element, a legal element, is prejudice. So, what I'm asking  
16 you: Do you have evidence presented before the jury to  
17 support a finding of prejudice?

18 **MR. ROUTH:** Yes.

19 **THE COURT:** And what is it?

20 **MR. ROUTH:** The facts are that we sold products from,  
21 according to the plaintiff's case, 1999 or so until the day it  
22 infringed the patent and --

23 **THE COURT:** But --

24 **MR. ROUTH:** -- and had the claims been brought in a  
25 timely manner and Mr. Bobel not rested on his rights, we would

1 not have incurred six or more years of sales.

2 **THE COURT:** Where is the evidence of that?

3 **MR. ROUTH:** Again, it's evidence --

4 **THE COURT:** But do you have to have evidence -- Let  
5 me just put it this way: Do you have to put a witness up who  
6 says had he raised this issue in 1999, or whatever the date,  
7 as opposed to 2005, we would have gone from the '529 patent to  
8 these Japanese patents?

9 **MR. ROUTH:** We have evidence already that there are  
10 noninfringing alternatives that could be used so one form of  
11 prejudice we would have sift shifted and avoided.

12 **THE COURT:** Why didn't you shift and avoid in 2005  
13 when he wrote -- What was the date of that letter?

14 **MR. SUDER:** 2005, Your Honor.

15 **THE COURT:** 2005 letter from the Chicago law firm.

16 **MR. ROUTH:** By 2005 we have products in the market  
17 that we spent money and effort in marketing to establish.  
18 It's much more expensive to shift in 2005 than it would have  
19 been at the beginning of this process in 1999.

20 **THE COURT:** I interrupted you. Tell me your evidence  
21 of the facts that you have presented to the jury that show ULT  
22 has been prejudiced.

23 **MR. ROUTH:** The facts are that we began introducing  
24 shut down circuits of the type that Mr. Bobel says practices  
25 his patent about the time when we have evidence that he would



1 have learned of the nature of our products and would have  
2 known of his claim of infringement in 1999. At that time  
3 there would have been little difficulty shifting to a --

4 **THE COURT:** Where is the evidence of that?

5 **MR. ROUTH:** Mr. Burke has testified that there was a  
6 noninfringing alternative that would have caused 11.77 cents  
7 more and there are a lot of products we have now identified  
8 through the course of this litigation and through what  
9 plaintiff's conduct has been that could have been used instead  
10 of the products that were actually used. So, we have lots of  
11 evidence of noninfringing alternatives that existed in 1999  
12 that could have been used instead of the '529 if it had been  
13 brought to our attention we'd seen it as a threat.

14 We also have I think evidence that if a claim had  
15 been brought in 1999 it would have been resolved sort short of  
16 the eight years that we now have of damages. In other words,  
17 just the nature of him bringing a claim against us, which is  
18 how you void the latches, not just by writing a letter, but by  
19 bringing a claim, if he had brought a legal claim in 1999,  
20 even if we haven't chosen the designer on route, it would have  
21 been litigated to 2003 and we would have confronted three  
22 years of damages rather than what we now face which is six  
23 years from the date of the complaint and two years of  
24 litigation; eight years of damages.

25 The delay of bringing claim in a patent case or in

1 other cases where there's is a running fee that accrues -- If  
2 you let somebody stay in an apartment and you decide, well,  
3 I'm not going to bring a case, I'm just going to wait for  
4 Howard Hughes to live here for ten years and then I'll sue him  
5 because he's got a lot of money. Howard Hughes can say, hey,  
6 wait a minute, you knew I was here, which we would have to  
7 show was part of the latches argument, he had knowledge of a  
8 claim. You knew I was here. You had me staying here. I  
9 could have been somewhere else. I could have had a house  
10 across the street. I could have been living in as an  
11 alternative or we could have worked out this rent earlier.  
12 You can't wait ten years and then come to me and say, I'm  
13 going to collect for all that time. That's what latches is.

14 So, the prejudice comes either from the -- not  
15 adopting an alternative solution that we could have or from  
16 not getting the matter resolved at a point in time before it  
17 began in this case eight years of damages have run.

18 **THE COURT:** All right.

19 **MR. SUDER:** May I respond? And I think you are spot  
20 on in your questions. First of all, it's not 1999. The  
21 earliest would be 2001. I don't know why Mr. Routh keeps  
22 talking about 1999. ULT didn't exist until 2001.

23 Second, on the issue of, well, we would have had it  
24 resolved earlier. We would have gotten an injunction and they  
25 would have been shut down. This -- this claim continues until

1 2013, until the patent is rendered invalid or unenforceable.

2 There simply is no evidence and -- at all. This is a  
3 nice argument and he can say all this, but the fact is there  
4 is no evidence upon which you can base that kind of inference.  
5 At some point you have to say, no, that's just too far.

6 And the last point is, Your Honor, that at the end of  
7 the day latches is equitable. Even if the jury returns  
8 answers to questions on latches, at the end of the day it's  
9 your decision. And if you feel that even if the jury found  
10 this, I don't think it's there, that could be -- that's the  
11 end of the analysis, because it's -- it's an equitable remedy  
12 just like any other equitable remedy. It's solely in your  
13 discretion.

14 **THE COURT:** All right. Okay. So, I'll turn the  
15 floor over to you.

16 **MR. SUDER:** On --

17 **THE COURT:** On the charge.

18 **MR. SUDER:** Yes, Your Honor. And I'll turn it over  
19 to Mr. Skeels on specifics. But the biggest issue that we  
20 have is that the Court declined to include a spoliation  
21 instruction and I think the evidence is absolutely  
22 uncontroverted that they treated in September 2005 a threat of  
23 litigation. That's how they construed it. That's how they  
24 said it. They had just gotten done with litigation with  
25 Lutron, so they understood the importance of preserving

1 documents. And I'm not saying they -- they did it. I think  
2 the way we submitted it is if the jury finds this and they  
3 find it, then this is the consequences of it.

4 And we submitted the spoliation instruction in  
5 accordance with Federal Circuit law that accepts Fifth Circuit  
6 law, because it's basically the same thing as any other thing,  
7 but there are specific Federal Circuit cases that deal with  
8 spoliation in a patent case. So, we don't -- we don't see how  
9 the Court cannot submit it. I mean, if anything, I could be  
10 arguing that you should tell them that it's uncontroverted and  
11 they have to presume it. We took the more cautious route and  
12 said if you find then this is what it is, and that's how we  
13 think it should be submitted.

14 **THE COURT:** Okay. Go ahead.

15 **MR. SKEELS:** Just to be -- just to be -- I think the  
16 other day, Your Honor, we submitted a -- an instruction  
17 requesting a spoliation instruction separately.

18 **THE COURT:** Okay.

19 **MR. SKEELS:** Last evening, when the parties jointly  
20 submitted an agreed charge to your inbox, we revised the  
21 language slightly and actually made it a more strongly worded  
22 you shall presume that, you know, that -- the evidence would  
23 have been unfavorable to the defendant.

24 If the Court's not open to that, we would, in fact,  
25 submit that at least a, you know, may may infer type of

1 instruction is appropriate.

2 **THE COURT:** Okay.

3 **MR. SKEELS:** I don't have a whole lot of comments on  
4 your charge, Your Honor. All right. So, if I look at your  
5 page 3, Your Honor, that's the -- where the spoliation issue  
6 is.

7 **THE COURT:** Okay.

8 **MR. SKEELS:** I'm flipping forward to see what other  
9 comments we have. We have been through it. I do have one  
10 concern, Your Honor, on the corresponding structure for the DC  
11 blocking means.

12 **THE COURT:** Can you direct me to the page?

13 **MR. SKEELS:** Yes. It's your -- Let me find your  
14 page.

15 **THE COURT:** It's the DC blocking, did you say?

16 **MR. SKEELS:** Yes.

17 **THE COURT:** Is that page 5? On my page 5?

18 **MR. SKEELS:** I'm looking at your pages now, Your  
19 Honor. It's at your page 8.

20 **THE COURT:** Okay. I'm sorry.

21 **MR. SKEELS:** Now, I recognize the Court may not want  
22 to adopt our terminology of quote "DC blocking capacitors,"  
23 but just as the Court did with regard to the control means  
24 that refers the jury to control circuit 58, it's been a -- the  
25 control circuit has been assigned this number that people have

1 referred to as control circuit 58. I think the Court should  
2 likewise refer to the DC blocking capacitors or the capacitors  
3 08 and 25 that are referenced in column 3 of the patent  
4 because those are specific capacitors.

5 And the support for that, Your Honor, is in your  
6 order amended -- yeah, your amended claim -- your amended  
7 memorandum opinion and order docket No. 107 at page 27. You  
8 indicated that you made reference to a capacitor or diode  
9 connected across upper terminals of the lamp and then you said  
10 see '529 patent, column 3, lines 53 to 58.

11 Now, frankly, we don't much care -- we add additional  
12 language from column 4 that also refers to the alternative of  
13 diodes instead of capacitors, but I think since diodes are  
14 pretty much out of the case, it would make senses to refer to  
15 capacitors 08 and 25 as the corresponding structure. That's  
16 consistent with your order on December 2nd.

17 **THE COURT:** Okay.

18 **MR. SKEELS:** I think we only have one or two more  
19 issues beyond that, Your Honor. I'm flipping ahead. You did  
20 take obviousness out. It's still in the verdict form. I'm  
21 assuming that was an oversight.

22 **THE COURT:** Oh, I'm sorry. I will remove that.

23 **MR. SKEELS:** Right.

24 **THE COURT:** Thank you for catching that.

25 **MR. SKEELS:** Oh, yeah. We did have -- Your Honor, on

1 your page 17, towards the bottom under the subheading Prior  
2 Art, you indicate that in this case the prior art is limited  
3 to the following, and you refer to the JP '997 and then the JP  
4 '799 with the next sentence as follows: You must decide  
5 whether any of they items serve to invalidate the asserted  
6 claims of the '529 patent. We would simply seek to add the  
7 word "separately" or something similar after the word "items"  
8 so that it reads: You must decide whether any of these items  
9 separately or individually serve to invalidate the asserted  
10 claims of the '529 patent.

11 We don't want the jury to be confused that they could  
12 combine these two references together since there's no  
13 evidence on that and since obviousness is out of the case.

14 **THE COURT:** So, in other words, look at 997. Does it  
15 invalidate. If not, set it aside. Look at 799. Does it  
16 invalidate.

17 **MR. SKEELS:** Precisely, Your Honor. I think that's  
18 it, Your Honor. And let me look at the verdict form, but I  
19 believe that's it. Yeah. You agreed to take obviousness out.  
20 That's all we have, Your Honor.

21 **THE COURT:** All right. Thank you. So, let's  
22 start -- before I hear your comments on the charge, let me  
23 hear you about spoliation and then we'll go through  
24 Mr. Skeels' comments on adding in 08 and I think it's 25 and  
25 then we'll end with his comment on individually or separately.

1           **MR. ROUTH:** I'm going to turn over some of that to  
2 Mr. Pearce.

3           **THE COURT:** Okay.

4           **MR. ROUTH:** I'll address spoliation.

5           **THE COURT:** Okay.

6           **MR. ROUTH:** Your Honor, I apologize for not having  
7 been able to look at this as carefully as I would like. But  
8 my understanding is that spoliation would not be a Federal  
9 Circuit issue. Even though this is a patent case, it's a  
10 traditional nonpatent specific issue I think should be  
11 governed by Fifth Circuit law.

12           **THE COURT:** All right.

13           **MR. ROUTH:** Under Fifth Circuit -- I don't know that  
14 there's a difference. I'm not making that point other than  
15 intellectually I believe that's how the case should be  
16 analyzed.

17           **THE COURT:** Okay.

18           **MR. ROUTH:** Under Fifth Circuit law I do know that a  
19 spoliation instruction is only appropriate where there's a  
20 showing of bad faith, the destruction of bad faith.

21           What we have here, despite all the trumpeting of it  
22 during cross-examination, is Mr. Berry saying I think I may  
23 have made some notes and circled a few things on the patent.  
24 I don't have them any more. This isn't reports that were  
25 written and shredded. This isn't evidence of somebody who did



1 anything conscious or deliberate. In fact, if anything,  
2 watching Mr. Berry testify, maybe I -- I know him and so that  
3 may -- I've come to know him, but he didn't say anything that  
4 would suggest I got rid of my notes or my notes were a  
5 problem. In fact, everything he concluded when he looked at  
6 this issue and his responsibilities was we don't have a  
7 problem. We're in good shape. And so I made, you know, some  
8 squiggles on the patent, he said, and some notes on them and  
9 things. There's nothing there to suggest he has anything that  
10 he would want to destroy, much less the bad faith that you  
11 would have to show to merit an instruction here.

12 The final thing I noted that, you know, the case law  
13 is there isn't the duty to preserve everything from the --  
14 from the first indication of a litigation, and the law can go  
15 a different way on things. But there's nothing that says when  
16 you get the first warning letter you can't throw anything away  
17 even intentionally. There's no evidence of intentional  
18 destruction here or bad faith. But this is very early. This  
19 is 2005 he says this happened. We're at a lawsuit that was  
20 bought in 2009.

21 **THE COURT:** All right.

22 **MR. ROUTH:** In-between there's a lot of time during  
23 which somebody could -- Quite frankly, Your Honor, I don't  
24 decide to throw away my notes. At some point you get so much  
25 that things -- things that you feel I've not had to look at

1 this in two years, I've got to go get rid of it, get disposed  
2 of, with absolutely no bad faith whatsoever. That's, I think  
3 the worst case scenario, what happened.

4 THE COURT: All right.

5 MR. SUDER: Your Honor, may I respond to that  
6 specific point and we can move on?

7 THE COURT: Okay.

8 MR. SUDER: I think the -- Areba -- the *Union Pump*  
9 *Company v Centrifugal Technology, Inc.*, which is a Fifth  
10 Circuit case.

11 THE COURT: What circuit?

12 MR. SUDER: Fifth Circuit. 404 Fed Appx 899. It was  
13 last December. It's unpublished, Your Honor.

14 THE COURT: 404, 899?

15 MR. SUDER: Yes. Your Honor, there's no issue of bad  
16 faith. The issue is foreseeability. And it's not intentional  
17 destruction. It's whether as we submitted and as in that case  
18 whether it's foreseeable and whether they material altered or  
19 did not put up the proper safeguards.

20 And Mr. Routh can argue that it was just a little  
21 scribble or this and that. I believe the Court heard the  
22 evidence from the CEO down that there was nothing and these  
23 are people that it was in their DNA and there's just no  
24 documents. And I think in light of the evidence that  
25 Mr. Routh, that this was the threat of litigation, we were on

1 a litigation warpath, and that they knew it and didn't do it,  
2 the question is, is whether it was foreseeable, and not  
3 whether they intentionally shredded but whether they -- you  
4 know, they just allowed documents to no longer be available.  
5 And that's why we think it's entirely appropriate.

6 **THE COURT:** Okay. Let me hear from you on that.

7 **MR. ROUTH:** Let me just make a point there. I had  
8 understood Mr. Suder and Mr. Skeels to be arguing about the  
9 destruction of documents. Now what I hear them saying is  
10 there was a failure to create documents. You know, there are  
11 people who by DNA are notetakers --

12 **THE COURT:** No, that's not what he's arguing.

13 **MR. ROUTH:** If that is the case, there is no --

14 **THE COURT:** He is arguing that there are witnesses  
15 who attended meetings and said they took notes and made notes  
16 on documents and they no longer exist. Okay. Whatever it  
17 is --

18 **MR. ROUTH:** One witness who had something that said  
19 doesn't exist.

20 **THE COURT:** There you go.

21 **MR. ROUTH:** That's fine.

22 **THE COURT:** Very good.

23 **MR. PEARCE:** Your Honor, on the DC blocking means,  
24 the reference to 08 or 25, I'm not sure it matters, quite  
25 frankly. I don't --

1           **THE COURT:** Well, then we'll just insert that.

2           **MR. PEARCE:** Okay.

3           **THE COURT:** Okay. And then the other -- What about  
4 the -- No, come back.

5           **MR. PEARCE:** Oh, I'm sorry.

6           **THE COURT:** And then on my page 17, on the prior art,  
7 he was arguing that the jury should be instructed to consider  
8 those prior references individually, not cumulatively and so  
9 he was arguing that the word either separately or individually  
10 ought to be inserted after items. What is your view on that?

11           **MR. PEARCE:** It's -- you must decide -- you must  
12 decide whether any of these items serve separately to  
13 invalidate the asserted claims of the '529 patent. I think  
14 it's made clear in the verdict form, so I don't know that's  
15 necessary.

16           And also it -- I don't know if I totally understood  
17 Mr. Skeels's comment that -- I think he -- It sounded to me  
18 like he was saying you consider one and if you don't find that  
19 you can consider the other reference and I don't think that  
20 would be appropriate. But, again, I'm not sure that make a  
21 huge -- In terms of adding the word "separately" in there I'm  
22 not sure that makes a huge difference.

23           **THE COURT:** All right. We'll put in it there and  
24 then the verdict form. That will make the jury understand  
25 clearly they're to consider 997 separately, 799 separately.

1 And answer "yes" or "no." Okay. So, now that's the response.  
2 Now, let me hear from you on your -- If you need a minute,  
3 that's okay.

4 **MR. PEARCE:** Sure. All right. Just a few comments,  
5 I guess on page -- the control means.

6 On page 8, the control means in terms of how the  
7 functions are defined. Again, I'm not sure -- I think this  
8 may be a distinction without a difference in terms of how it's  
9 listed, but we do think it will be more appropriate to list it  
10 the way that it was in the claims construction order, I think  
11 it's on page 25 of Your Honor's opinion, where it said the  
12 parties agree that there are three functions that correspond  
13 with the control means, so in light of that agreement and that  
14 statement in the claims construction order, we think it would  
15 be more appropriate to list it with three functions.

16 Again, this seems like an issue where there's not a  
17 huge difference between what we proposed but we do think our  
18 instruction is better and consistent with your prior order.

19 **THE COURT:** What do you say to that, Mr. Skeels?

20 **MR. SKEELS:** We disagree. We think -- The jury's  
21 already seen evidence. We made a chart of the four functions.

22 **THE COURT:** Okay. That's overruled. Okay. What's  
23 your next -- Your point is overruled.

24 **MR. PEARCE:** Okay.

25 **THE COURT:** What's your next point?

1           **MR. PEARCE:** The next point was we get to pages --  
2     starting I guess on page 12 of Your Honor's order, the control  
3     means, and there's a -- or, I'm sorry, not control means,  
4     related to that, on infringement in terms of equivalent  
5     structures for means plus function. We submitted a lot of  
6     language. They submitted a lot of language. Our preferred  
7     position would be that everything we submitted on that, they  
8     submitted on that, would come out. The model jury  
9     instructions are pretty uniformly much simpler than what we  
10    have here.

11           To the extent that they want to add their stuff, we  
12    want to have our stuff as well and what's -- Our preferred  
13    position is that essentially that stuff wouldn't be all in  
14    there and just stick to something closer to what's in the  
15    pattern jury instructions.

16           **MR. ROUTH:** I going to state it a little stronger.  
17    We actually object to putting in all this language. Some of  
18    it is ours, some of it is theirs. I just think the jury is  
19    going to have too much to try sort through on the one hand.  
20    On the other hand, it's a simple Pattern Jury Instruction will  
21    give them what they need.

22           **MR. SKEELS:** We agree wholeheartedly, Your Honor,  
23    with the way you put it in. I think the Pattern Jury  
24    Instructions are model jury instructions for just that reason,  
25    to cover a wide breath of cases, and they are always modified

1 to cover a particular case. In this case their main  
2 noninfringement defense is taking control circuit 58, tracing  
3 the first second path, the second circuit path, third circuit  
4 path, doing what, in our opinion, is a component by component  
5 analysis which the Federal Circuit has said repeatedly said is  
6 absolutely improper. I think, respectfully, Your Honor,  
7 they're scared of this instruction because it guts a lot of  
8 their case. I think it's absolutely appropriate.

9 They've added some law about how the instructions  
10 works. We've added some law. We think it's appropriate to  
11 add it here. The way you've done it brought it all in and  
12 gives both sides a chance to argue their points.

13 **MR. ROUTH:** Judge, we think what they've done to try  
14 to show infringement is that they take a big blue box and say  
15 it's control means. That's an argument --

16 **THE COURT:** Do I have the law wrong here?

17 **MR. ROUTH:** What you have is a collection of  
18 statements from different Federal Circuit cases each of which  
19 was addressing a unique circumstance and in that unique  
20 circumstance the statement of law is always right. They're  
21 almost all quoted from the Federal Circuit. When the Federal  
22 Circuit said this summary judgment ruling is by district court  
23 is reversed because he gave an improper component by component  
24 analysis, that doesn't mean that you can universalize that  
25 kind of a statement.

1           Similarly, we have taken statements that I think you  
2           can say don't apply in every situation. The patent jury  
3           instruction, Mr. Skeels is right, is for cases, only cases  
4           with means-plus-function terms. You would never give that  
5           instruction if there wasn't a means-plus-function issue. What  
6           the pattern jury says is when you have a means-plus-function  
7           issue, you give a simple, straightforward, this is what  
8           corresponding instructions mean, not a collection of their  
9           favorites from cases and, quite frankly, we did it later and  
10          probably not as thoroughly our favorites to try to balance  
11          each other off and read like four paragraphs of on the one  
12          hand, on the other hand.

13                 Those instructions, like I said, are every  
14          misstatement comes out of a case and so I'm not saying they  
15          can't find a cite for it. The same with ours. They just  
16          don't apply generally.

17                 **THE COURT:** Okay. What's next? That's okay.

18                 **MR. PEARCE:** Okay. I think the next -- the next  
19          thing we wanted to mention was damages and I'm going to defer  
20          to one of my colleagues --

21                 **THE COURT:** I didn't hear you.

22                 **MR. PEARCE:** Oh, I'm sorry.

23                 **THE COURT:** Something about damages.

24                 **MR. PEARCE:** Yes. The next thing we wanted to bring  
25          up related to the damages instructions and I am going to defer



1 to one of my colleagues who knows something about that area of  
2 law more than I do.

3 **THE COURT:** All right.

4 **MR. SUDER:** Judge, I don't think either one -- I  
5 think you put damages exactly as we submitted it.

6 **THE COURT:** Question No. 4 and then you added -- you  
7 wanted some -- a proposed question about lump sum -- What was  
8 that, lump sum and a date?

9 (Off-the-record discussion with law clerk.)

10 **THE COURT:** Okay. Go ahead.

11 **MR. ROUTH:** The only other thing, Your Honor, on page  
12 30, we get to the damages on the verdict form. I'm concerned  
13 that the way this is stated if a number is written in there --  
14 Let's say you write in 1.5 million dollars. I'm going to  
15 think they've accepted the lump sum from Mr. Milani. They may  
16 think it's a running royalty rate. I think we should have  
17 some way for the jury to tell us what type of award they're  
18 giving.

19 I think we had submitted something with a proposal,  
20 but I've seen it done a number of different ways. Sometimes  
21 you say lump sum or reasonable royalty and then you let -- I'm  
22 not suggesting anything other than a modification that gives  
23 some option to the jury because they've heard two forms of  
24 reasonable royalties, lump sum and running royalty, that we  
25 know which one they're awarding.

1           **THE COURT:** Okay.

2           **MR. SKEELS:** I don't think that point is confusing at  
3 all, Your Honor. The way you have it worded is appropriate.  
4 The suggested question by defendant refers to past and future  
5 practices of the asserted claims. If we get an award and then  
6 we get a judgment and then, you know, whatever the appellate  
7 timetables run, you know, from that point forward, we have  
8 additional damages. This patent does not expire until 2013  
9 and this is arguing -- very confusing about whether or not  
10 future damages should be included or brought into this portion  
11 of the damages charge.

12           **MR. SUDER:** Your Honor, we cannot bring a claim for  
13 future damages. That's why it was as of April 30th. That's  
14 it. So, the idea to suggest that they can get a finding from  
15 this jury on future damages is unprecedented.

16           **MR. ROUTH:** Your Honor, we're ships passing in the  
17 night. I'm looking at the language here. I'm not looking for  
18 something about future damages. I'm looking for an indication  
19 allowing the jury to make a choice, tell us their choice,  
20 actually, because they're going to make one, as to whether  
21 they're selecting a lump sum award for a reasonable royalty  
22 or -- something of a running royalty or percentage royalty.

23           **THE COURT:** Okay.

24           **MR. SKEELS:** Your Honor, the final point will be we  
25 intend to go through the charge very carefully with the jury

1 and instruct them that they'd better notice that it says  
2 dollars and cents. If they right in 7.5, we're in trouble.

3 **THE COURT:** No, he -- I think what he is asking is do  
4 you want the jury to say we have awarded \$10 million dollars  
5 in damages and we believe that is based on 6 -- 6.5% for Mark  
6 Gallagher or Mr. Gallagher or we've awarded 1.5 million  
7 dollars and that's a lump sum amount that we credit to Milani,  
8 or whatever his name is.

9 **MR. SKEELS:** We do not, Your Honor. We think that  
10 only invites problems. The question is clear as worded.  
11 State your number in dollars and cents and we will live with  
12 it.

13 **THE COURT:** Okay.

14 **MR. SUDER:** The jury can come in anywhere from zero  
15 to 15 million 650,000 and it is within their province to pick  
16 a number there and however they decide it is their business.

17 **THE COURT:** Okay.

18 **MR. ROUTH:** I don't disagree. It's also within their  
19 province when they pick the number to say whether it's for a  
20 running royalty or a lump sum.

21 **THE COURT:** No. I think I understand now. Do you  
22 have any other --

23 **MR. ROUTH:** No, Your Honor.

24 **THE COURT:** Okay. I would ask that you give me about  
25 five or ten more minutes to think about this --

1 MR. SUDER: One thing.

2 THE COURT: Yes.

3 MR. SUDER: On spoliation, there are two alternative  
4 versions that we have submitted. The first one was -- and it  
5 really goes to failure to preserve property.

6 THE COURT: I'm going to go read the case.

7 MR. SUDER: And I'll be -- I'll be honest, we gave  
8 the one that we think is the strongest because the case law  
9 supports it but we initially, as my partner, Mike Hood, that's  
10 the first one he submitted and sent us another one. The first  
11 one we submitted was a little softer. The second one was --  
12 the Court has been satisfied that they have destroyed or --  
13 failed to preserve material documents.

14 THE COURT: Okay.

15 MR. SUDER: So we have two different potential  
16 submissions.

17 THE COURT: Okay. Yes. Very good.

18 MR. ROUTH: I was just going to speak -- I have a  
19 couple of Fifth Circuit cites if you want those --

20 THE COURT: Okay.

21 MR. ROUTH: -- on the bad faith requirement.

22 THE COURT: Give me about ten or fifteen minutes.  
23 I'll be right back. Thank you.

24 (Recess.)

25 THE COURT: The request to have latches and waivers

1 included in the charge, an instruction on latches and waiver  
2 will be denied. There --

3 MR. SUDER: I'm sorry. Will not be in the charge?

4 THE COURT: Will not be in the charge. There will be  
5 no evidence -- that I find there's no evidence that ULT has  
6 been -- submitted that ULT has been prejudiced. The argument  
7 that Mr. Routh made at the charge conference is not supported  
8 by factual evidence, in my view.

9 In addition, I don't find that there's any evidence  
10 that Mr. Bobel waived; that is, he intentionally relinquished  
11 his known rights to the patent.

12 In addition, with respect to the prejudice argument,  
13 I find that the argument that the time period that would be  
14 applied to -- that Mr. Routh argued should apply to that  
15 argument, that being 1999, is too flimsy and speculative.  
16 Therefore, his argument would rest on the argument between the  
17 2005 letter and the filing of the lawsuit in 2009, and I  
18 believe there's no evidence that there's been any prejudice  
19 established factually to submit this issue to the jury that  
20 there's been any prejudice to ULT. So, for those reasons it  
21 will not be submitted.

22 Your objection is noted, obviously, but it will not  
23 be submitted to the jury.

24 I will not submit a spoliation instruction. The  
25 Fifth Circuit permits an adverse inference if there's a

1 showing of bad faith or bad conduct. That's cited in the case  
2 at 431 F.3d 191. The test is whether the Court from the facts  
3 that a party has destroyed evidence could draw an inference  
4 that the party did so in bad faith or with bad conduct and I  
5 find that there's been no evidence of that in this case.

6 I have read the *Union Pump* case at 404 Fed Appx 899  
7 and it does not change my view on whether this should be  
8 submitted.

9 I deny ULT's request to add language to the damages  
10 question.

11 Of course, the objection on all these arguments are  
12 preserved because you've already presented them after  
13 considering them back -- giving it some thought after your  
14 argument, I'm just making my rulings here.

15 So that will not be submitted.

16 I've also only submitted -- Hold on a second. Ken.

17 (Off-the-record discussion with law clerk and Court.)

18 **THE COURT:** Okay. I also am submitting just what is  
19 contained in the Pattern Jury Charge on the equivalents and  
20 means-plus-function language. I'm doing that because I  
21 believe adding the additional language -- and I believe this  
22 on both the request for damages and on the request for this  
23 language. I believe adding the additional language would be  
24 confusing to the jury and so it should be not included in the  
25 charge that is submitted to the jury. Other than that, ULT

1 has agreed to the request by Mr. Skeels and that has been  
2 included in the final copy.

3 I took the obviousness language out of the last  
4 couple of pages there from the form. I took out the last  
5 paragraph before the final sentence that talked about jury  
6 notes since I did not allow them to take notes, so this is the  
7 charge I propose to submit.

8 So, other than the objections you've already stated,  
9 which you read into the record, are there any further  
10 objections?

11 MR. ROUTH: No, Your Honor. I do have a question.

12 THE COURT: Okay.

13 MR. ROUTH: On the damages -- On the verdict form  
14 then -- I understand the Court's ruling on damages -- they  
15 have been presented with two different types of royalties. I  
16 assume we can argue for that and just tell them if you have a  
17 lump sum you should specify lump sum when you write in a  
18 dollar amount, because otherwise we won't know that.

19 THE COURT: They're going to write -- The instruction  
20 says provide the amount, if any, in dollars and cents.

21 MR. ROUTH: Right.

22 THE COURT: So that's what they are to provide in the  
23 blank, the amount in dollars and cents.

24 MR. ROUTH: Again though, whether the amount is an  
25 amount for total of a running royalty or the amount of the

1 lump sum is something that won't be known to us that --

2 **THE COURT:** And I've overruled that.

3 **MR. ROUTH:** I understand. I'm no longer asking --

4 **THE COURT:** If you want -- In other words, don't  
5 contradict the instruction. Don't tell them to write  
6 something when the instruction tells them to write only  
7 something else. The instruction says provide the amount, if  
8 any, in dollars and cents and you're saying you want to tell  
9 them to write the amount in dollars and cents and to write  
10 lump sum or royalty or whatever.

11 **MR. ROUTH:** Okay. If I -- I'm going to argue for  
12 lump sum.

13 **THE COURT:** That's fine.

14 **MR. ROUTH:** There's no way that I can see for them to  
15 know -- I suspect they would be confused at another case in  
16 which the jury sent out a note and said how are we supposed to  
17 set out a lump sum. The judge said write lump sum. How would  
18 they know as jurors we would like a lump sum? Should we write  
19 the number down? If they do, it results in argument among  
20 counsel as to -- I'm not trying to arguing the point. I'm  
21 trying to decide how to argue it the jury and I don't want to  
22 contradict Your Honor's decision. But I also don't want to  
23 leave the jury sitting there saying they tell us to say lump  
24 sum -- I mean, we have a running royalty that would be one  
25 number and a lump sum that would be another number.



1           **THE COURT:** Okay.

2           **MR. ROUTH:** I'm just not sure how they are supposed  
3 to indicate their decision here, given the nature of the form,  
4 and I would want to be able to tell them, but I guess I can't.

5           **THE COURT:** What do you say to that?

6           **MR. SKEELS:** I don't think it's -- I think Mr. Routh  
7 can tell them to write down \$1.5 million or \$900,000.00 --

8           **THE COURT:** Representing a lump sum or -- Okay.  
9 That's overruled. The -- I'm sticking with what I've got  
10 here.

11          **MR. ROUTH:** I understand.

12          **THE COURT:** And you can argue that they should find  
13 lump sum of 1.5 or lump sum of zero and ask them to write in  
14 the blank zero or write in the blank 1.5.

15          **MR. ROUTH:** But if they write in the blank 1.5, they  
16 will argue that's a running royalty of 1.5 and I will argue  
17 it's a lump sum of 1.5 when we finish this and that's what  
18 I'm trying to avoid.

19          **MR. SUDER:** That's for another day.

20          **THE COURT:** All right.

21          **MR. ROUTH:** Because the way it's worded, you can  
22 argue this is how much we should get today, 1.5. I would be  
23 saying, no, no, they said 1.5 which is what you should get,  
24 period. That's where the hypothetical negotiation would have  
25 led you. And then we're not going to know.

1 And, again, I -- I think we're -- I understand the  
2 Court's not going to accept my position on it, but -- how are  
3 we to get a jury to see that a lump sum of 1.5 will just -- it  
4 won't be -- it will be disputed --

5 **MR. SUDER:** Your Honor, it's the same thing as  
6 control means. You went with the model jury instructions.  
7 This is how they say you should do it. This is how it's  
8 always done in all cases.

9 **MR. ROUTH:** No, it's not done in all cases. We've  
10 had it where we did it separately and another case where we  
11 didn't and the jury came out with a note. If they are  
12 presented with both models, which one or two. Again, if you  
13 don't want to put it on there, I wonder if we can say, two  
14 models, you've got the royalty, you've got the lump sum. You  
15 need to choose one.

16 **MR. SUDER:** That's for argument, Your Honor. We  
17 submitted a royalty. They can say, no, listen to our expert.

18 **MR. ROUTH:** I agree that's an argument as to --

19 **THE COURT:** Okay. Okay.

20 (Off-the-record discussion between Court and law clerk. )

21 **THE COURT:** Okay. It's denied. It's staying as is.  
22 Okay. So -- Yes, sir.

23 **MR. SKEELS:** May I just make sure our record is clear  
24 because you pulled out a lot of the language regarding the  
25 means-plus-function and specifically we have a question, an

1 instruction component by component analysis is improper and  
2 that this notion it should be compared as a whole, control  
3 circuit 58 as a whole should be compared to the controlled  
4 circuitry of the accused product as a whole.

5 **THE COURT:** Yes. The earlier draft, that should  
6 preserve your record, like that's the language you wanted.

7 **MR. SKEELS:** Okay.

8 **THE COURT:** And so on appeal you will be able to  
9 point them to the specific verbiage you wanted that I have  
10 refused.

11 **MR. SKEELS:** And we have submitted an instruction for  
12 spoliation.

13 **THE COURT:** Correct. And the same would hold true.

14 **MR. SKEELS:** I submitted that charge to your e-mail  
15 inbox last night. I don't believe we've filed it as a matter  
16 of record. If that's okay with the Court, we'll go ahead and  
17 do that tomorrow.

18 **THE COURT:** Yes. And I have the -- this copy,  
19 actually, I have it and I'm going to have it put on the docket  
20 so that -- but it doesn't have spoliation, so you'll need  
21 to --

22 **MR. SKEELS:** The one we sent last night does have a  
23 spoliation instruction.

24 **THE COURT:** Correct. But this one doesn't. If you  
25 will file a docket entry with both your spoliation

1 definitions -- just so you have it preserved. That's all I'm  
2 saying.

3 **MR. SKEELS:** Very good. Thank you, Your Honor.

4 **THE COURT:** And I'm going to put on the docket what  
5 we talked about a moment ago. Okay? It has our language on  
6 latches and waiver and whatever else and it has your long form  
7 language on --

8 **MR. SKEELS:** Right.

9 **THE COURT:** -- all of that. So you've got -- so you  
10 all should have preserved what you've asked for and what I've  
11 refused except for spoliation.

12 **MR. SKEELS:** Very good. Thank you, Your Honor.

13 **MR. ROUTH:** Thank you, Your Honor.

14 **THE COURT:** Actually, you need to file your damage.

15 **MR. ROUTH:** The -- the form -- we will -- you're  
16 going to file something as we did last night, if you could let  
17 me add a line for ULT --

18 **THE COURT:** You know what we're talking about, the  
19 damage -- you know what I'm talking about that I took out.  
20 The damage line. It was in the agreed document you submitted  
21 to the inbox.

22 **MR. SKEELS:** Right.

23 **THE COURT:** Do you know what I'm talking about or  
24 not?

25 **MR. SKEELS:** I thought we did have a spoliation

1 instruction --

2 THE COURT: No. No. No. You're going to take care  
3 of that.

4 MR. SUDER: We've got that.

5 THE COURT: You're good on that. I'm just talking  
6 about I took out -- he had an extra question for damages that  
7 I'm not submitting.

8 MR. SKEELS: Right.

9 THE COURT: If it goes to what we've been talking  
10 about.

11 MR. SKEELS: Right.

12 THE COURT: He needs to file that like you need to  
13 file spoliation.

14 MR. SUDER: We understand.

15 THE COURT: Do you?

16 MR. SUDER: Yes.

17 THE COURT: Okay. The last -- Yes?

18 MR. ROUTH: No, I think I'm -- you're about to speak  
19 to what I want to hear.

20 THE COURT: No, I'm not. The last thing is --

21 MR. SUDER: One last time.

22 THE COURT: The only other thing that will be  
23 different there is I'm going to add a signature block and a  
24 date for me.

25 MR. SUDER: Okay.

1           **THE COURT:** And then I'm going to add the same thing  
2 for the foreperson.

3           **MR. SUDER:** Yes.

4           **THE COURT:** On the very last page.

5           **MR. ROUTH:** Very good.

6           **MR. SUDER:** Your Honor, I guess this is our formal --

7           **THE COURT:** This is it.

8           **MR. SUDER:** So we don't have anything in the morning.  
9 Obviously, the last question is time.

10          **THE COURT:** Yes. Right. Okay. So, what do you  
11 want?

12          **MR. SUDER:** I think forty-five minutes -- I was going  
13 to ask for an hour. I think forty-five minutes is plenty a  
14 side.

15          **MR. ROUTH:** I prefer an hour. I think, given the  
16 evidence, you know, given that the half hour was pretty tight  
17 on opening, we've got a lot of evidence to summarize.

18          **THE COURT:** Okay. Forty-five minutes a side. Are  
19 you doing the whole thing or are you splitting? Are you all  
20 splitting -- you will open and close, right?

21          **MR. SUDER:** Yes. We'll see.

22          **THE COURT:** Okay. Well, then you tell me tomorrow --

23          **MR. SUDER:** Yes.

24          **THE COURT:** -- how you want to split it up. Well,  
25 first off, do you know how --

1 MR. SUDER: Probably be thirty and fifteen.

2 THE COURT: Thirty and fifteen. And, obviously,  
3 you -- What kind of warning do you want?

4 MR. ROUTH: Five minutes.

5 THE COURT: A five minute warning. And then you'll  
6 tell me tomorrow --

7 MR. SUDER: Yes.

8 THE COURT: Okay. So, when we come back -- Yes, sir?

9 MR. SUDER: No, I -- I think you were going to --

10 THE COURT: I was just going to say when we come back  
11 in the morning, I need you all the close.

12 MR. SUDER: Yes. I assume you -- I assume we'll  
13 start at nine, this will take about thirty, forty minutes,  
14 maybe some other stuff, do our option. Probably pick a  
15 foreperson and go to lunch --

16 THE COURT: I'm going to give them -- I think -- I'm  
17 checking on this tonight but I think I can pay for sandwiches.  
18 Didn't they order sandwiches in one day?

19 (Off-the-record discussion.)

20 THE COURT: I'm hoping they will work in, work  
21 through lunch, and just have food brought in.

22 MR. SUDER: Yes, sir.

23 THE COURT: But, yes, we'll start at nine. And I'll  
24 read the charge first. I know some people swap that, but --

25 MR. SUDER: No, you -- I saw that in the

1 preliminaries.

2 THE COURT: Did I not --

3 MR. SUDER: Yes, we did. When were reading along --

4 THE COURT: Right.

5 MR. SUDER: This is about the easiest charge  
6 conference I think I've ever been in.

7 THE COURT: Good. Not for me. I've been struggling  
8 with all this.

9 MR. SUDER: I've been in Judge McBride's Court --

10 THE COURT: That's on the record.

11 MR. ROUTH: We have nothing else.

12 THE COURT: Nothing else? So, you have your final  
13 copy. The only difference will be the signatures, signature  
14 box.

15 MR. ROUTH: See you in the morning.

16 THE COURT: We will close in the morning and we will  
17 get started. Thank you all very much.

18 (Recess.)

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25



1 I, **DENVER B. RODEN**, United States Court Reporter for the  
2 United States District Court in and for the Northern District  
3 of Texas, Dallas Division, hereby certify that the above and  
4 foregoing contains a true and correct transcription of the  
5 proceedings in the above entitled and numbered cause.

6 **WITNESS MY HAND** on this 16th day of June, 2011.

7  
8  
9 /s/ Denver B. Roden

10 **DENVER B. RODEN, RMR**  
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**DENVER B. RODEN, RMR**

*United States Court Reporter*

A13418

IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF TEXAS  
WICHITA FALLS DIVISION

LIGHTING BALLAST CONTROL LLC,

Plaintiff,

v.

UNIVERSAL LIGHTING TECHNOLOGIES,  
INC.,

Defendant.

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CIVIL ACTION NO. 7:09-CV-00029-O

**JURY TRIAL DEMANDED**

**AGREED CHARGE**

LADIES AND GENTLEMEN OF THE JURY:

You have heard the evidence presented by the parties and the argument of their respective attorneys. It is now my duty to give you the charge in this case. It will be an oral charge and is given in an effort to assist you in your deliberation in deciding the issues you must decide in order to reach a fair and impartial verdict in this case. Perhaps this function of the Court is the most important one that the Court performs in the trial, so I ask you to pay close attention to my remarks.

You will remember that, at the beginning of this trial, I gave you some general instructions and definitions. Rather than repeat them, I ask you to recall them now in deciding the facts and issues that you are to decide. As I instructed you at the beginning of trial, you are the exclusive judges of the facts, the credibility of the evidence, and the weight to be given the testimony of the witnesses.

You are to perform your duty without bias or prejudice to any party. The law does not permit jurors to be governed by sympathy or prejudice. Corporations and all other persons are equal before the law and must be treated as equals in a court of justice. The

Also used in Element A of Claim 1, the phrase “voltage source means providing a constant or variable magnitude DC voltage between the DC input terminals” shall mean “a rectifier.”

Also used in Element D of Claim 1, the phrase “whenever at least one gas discharge lamp is removed from the output terminals or is defective” shall **ULT: be given its ordinary meaning. LBC: mean “whenever the DC control path is broken due to the lamp removal or a broken filament.”**<sup>3</sup>

Some of the requirements of Claim 1 are written in a different format called “means-plus-function,” which I will explain in a few moments.

### **“COMPRISING” CLAIMS**

I also will explain how to consider a situation where an asserted claim uses the term “comprising.” In this instance, Claim 1 of the ’529 patent uses the word “comprising.” When a claim uses the word comprising, it means including or containing. A claim that uses the word comprising or comprises is not limited to products having only the elements that are recited in the claim but also covers products that add additional elements.

**LBC: Let’s take as an example a claim that covers a table. If the claim recites a table comprising a tabletop, legs, and glue, the claim will cover any table that**

---

<sup>3</sup> ULT’s position: The Court ruled in its Amended Memorandum Opinion and Order on claim construction [ECF #107] that the phrase “whenever at least one gas discharge lamp is removed from the output terminals or is defective” needs no further construction and shall be construed according to its ordinary meaning. Pages 32, 34. That ruling was consistent with the construction requested by LBC. ULT’s proposed instruction follows the Court’s Order. On the other hand, LBC proposes that the jury be instructed on a new and different construction of this phrase that does not follow the ordinary meaning of the phrase in the art, and is contrary to LBC’s own proposed construction. See ULT’s Brief in Support of its Motion for Summary Judgment [ECF #127] at pages 29-33 and Reply [ECF #138] at pages 12-15. It would be improper to instruct the jury that it must follow an argument developed by LBC’s counsel and experts on the ordinary meaning of a term when that argument is disputed and is not part of the Court’s claim construction opinion and order.

### CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 16<sup>th</sup> day of April, 2012, 2 copies of the foregoing NONCONFIDENTIAL JOINT APPENDIX were served by sending same via FEDERAL EXPRESS, PRIORITY OVERNIGHT postage prepaid, addressed to:

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A handwritten signature in black ink, appearing to read 'Raymond Charles Clark', is written over a horizontal line.

RAYMOND CHARLES CLARK

BYRON S. ADAMS

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